BOTTOM MESONS
$(B = \pm 1)$

$B^+ = u\overline{b}$, $B^0 = d\overline{b}$, $\overline{B}^0 = \overline{d}\,b$, $B^- = \overline{u}\,b$, similarly for B^*'s

NODE=MXXX045

B-particle organization

NODE=S741

Many measurements of B decays involve admixtures of B hadrons. Previously we arbitrarily included such admixtures in the $B^\pm$ section, but because of their importance we have created two new sections: "$B^\pm/B^0$ Admixture" for $\Upsilon(4S)$ results and "$B^\pm/B^0/B^0_s$/b-baryon Admixture" for results at higher energies. Most inclusive decay branching fractions and χ_b at high energy are found in the Admixture sections. B^0-$\overline{B}^0$ mixing data are found in the B^0 section, while B^0_s-$\overline{B}^0_s$ mixing data and B-$\overline{B}$ mixing data for a B^0/B^0_s admixture are found in the B^0_s section. CP-violation data are found in the $B^\pm$, B^0, and $B^\pm$ B^0 Admixture sections. b-baryons are found near the end of the Baryon section.

The organization of the B sections is now as follows, where bullets indicate particle sections and brackets indicate reviews.

- $B^\pm$
  mass, mean life, CP violation, branching fractions
- B^0
  mass, mean life, B^0-$\overline{B}^0$ mixing, CP violation, branching fractions
- $B^\pm/B^0$ Admixtures
  CP violation, branching fractions
- $B^\pm/B^0/B^0_s$/b-baryon Admixtures
  mean life, production fractions, branching fractions
- B^*, $B_1(5721)$, $B^*_2(5747)$, $B_J(5970)$
  mass, width
- B^0_s
  mass, mean life, B^0_s-$\overline{B}^0_s$ mixing, CP violation, branching fractions
- B^*_s, $B_{s1}(5830)^0$, $B^*_{s2}(5840)^0$
  mass, width
- $B^\pm_c$
  mass, mean life, branching fractions
- $B_c(2S)^\pm$
  mass

At the end of Baryon Listings:

- Λ_b
  mass, mean life, branching fractions
- $\Lambda_b(5912)^0$, $\Lambda_b(5920)^0$, $\Lambda_b(6070)^0$, $\Lambda_b(6146)^0$, $\Lambda_b(6152)^0$
  mass, width
- Σ_b

mass

- Σ_b^*, $\Sigma_b(6097)^+$, $\Sigma_b(6097)^-$

  mass, width

- Ξ_b^0, Ξ_b^-

  mass, mean life, branching fractions

- $\Xi_b'(5935)^-$, $\Xi_b(5945)^0$, $\Xi_b(5955)^-$, $\Xi_b(6100)^-$, $\Xi_b(6227)^-$, $\Xi_b(6227)^0$, $\Xi_b(6327)^0$, $\Xi_b(6333)^0$

  mass, width

- Ω_b^-

  mass, mean life, branching fractions

- $\Omega_b(6316)^-$, $\Omega_b(6330)^-$, $\Omega_b(6340)^-$, $\Omega_b(6350)^-$

  mass

- b-baryon Admixture

  mean life, branching fractions

$B^{\pm}$

$I(J^P) = \frac{1}{2}(0^-)$

NODE=S041

I, J, P need confirmation. Quantum numbers shown are quark-model predictions.

Mass $m_{B^{\pm}} = 5279.41 \pm 0.07$ MeV

NODE=S041M;DTYPE=M

Mean life $\tau_{B^{\pm}} = (1.637 \pm 0.004) \times 10^{-12}$ s

NODE=S041T;DTYPE=T;OUR EVAL;

→ UNCHECKED ←

$c\tau = 490.8$ μm

NODE=S041CTA;DTYPE=C;OUR EVAL

CP violation

CLUMP=E

$A_{CP}(B^+ \to J/\psi(1S) K^+) = (1.8 \pm 3.0) \times 10^{-3}$ (S = 1.5) — NODE=S041AX1;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to J/\psi(1S) \pi^+) = (1.5 \pm 0.5) \times 10^{-2}$ — NODE=S041AX9;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to J/\psi \rho^+) = -0.05 \pm 0.05$ — NODE=S041AC5;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to J/\psi K^*(892)^+) = -0.048 \pm 0.033$ — NODE=S041AW1;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \eta_c K^+) = -0.05 \pm 0.05$ (S = 1.5) — NODE=S041ABE;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \psi(2S) \pi^+) = 0.03 \pm 0.06$ — NODE=S041AZ2;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \psi(2S) K^+) = 0.004 \pm 0.020$ (S = 1.5) — NODE=S041AX2;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \psi(2S) K^*(892)^+) = 0.08 \pm 0.21$ — NODE=S041AW2;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \chi_{c1}(1P) \pi^+) = 0.07 \pm 0.18$ — NODE=S041AW5;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \chi_{c0} K^+) = -0.20 \pm 0.18$ (S = 1.5) — NODE=S041CQ9;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \chi_{c1} K^+) = -0.009 \pm 0.033$ — NODE=S041AW3;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \chi_{c1} K^*(892)^+) = 0.5 \pm 0.5$ — NODE=S041AW4;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to D^0 \ell^+ \nu_\ell) = (-0.14 \pm 0.20) \times 10^{-2}$ — NODE=S041A02;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \overline{D}^0 \pi^+) = (-3.2 \pm 3.5) \times 10^{-3}$ — NODE=S041AD2;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to D_{CP(+1)} \pi^+) = -0.0088 \pm 0.0024$ — NODE=S041AD3;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to D_{CP(-1)} \pi^+) = -0.003 \pm 0.012$ — NODE=S041AD4;DTYPE=a;CLUMP=E

$A_{CP}([K^\mp \pi^\pm \pi^+ \pi^-]_D \pi^+) = 0.070 \pm 0.020$ — NODE=S041AYA;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to [\pi^+ \pi^+ \pi^- \pi^-]_D K^+) = 0.061 \pm 0.013$ — NODE=S041A00;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to [\pi^+ \pi^- \pi^+ \pi^-]_D K^*(892)^+) = 0.02 \pm 0.11$ — NODE=S041A08;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to [K^+ K^- \pi^+ \pi^-]_D K^+) = 0.095 \pm 0.023$ — NODE=S041A69;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to [K^+ K^- \pi^+ \pi^-]_D \pi^+) = -0.009 \pm 0.006$ — NODE=S041A70;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \overline{D}^0 K^+) = -0.018 \pm 0.004$ — NODE=S041AY2;DTYPE=a;CLUMP=E

$A_{CP}([K^\mp \pi^\pm \pi^+ \pi^-]_D K^+) = -0.32 \pm 0.04$ — NODE=S041AYB;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to [\pi^+ \pi^+ \pi^- \pi^-]_D \pi^+) = (-8.2 \pm 3.2) \times 10^{-3}$ — NODE=S041A01;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to [K^- \pi^+]_D K^+) = -0.58 \pm 0.21$ — NODE=S041AC0;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to [K^- \pi^+ \pi^0]_D K^+) = -0.27 \pm 0.27$ (S = 2.4) — NODE=S041AK2;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to [K^+ \pi^- \pi^0]_D K^+) = -0.024 \pm 0.013$ — NODE=S041A65;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to [K^+ K^- \pi^0]_D K^+) = 0.07 \pm 0.07$ — NODE=S041AG0;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to [\pi^+\pi^-\pi^0]_D K^+) = 0.11 \pm 0.04$ NODE=S041AG1;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \overline{D}^0 K^*(892)^+) = -0.007 \pm 0.019$ NODE=S041A09;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^-\pi^+]_{\overline{D}} K^*(892)^+) = -0.75 \pm 0.16$ NODE=S041AC4;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^-\pi^+\pi^-\pi^+]_{\overline{D}} K^*(892)^+) = -0.45 \pm 0.25$ NODE=S041A07;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^-\pi^+]_D \pi^+) = 0.00 \pm 0.09$ NODE=S041AC1;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^-\pi^+\pi^0]_D \pi^+) = 0.08 \pm 0.09$ NODE=S041AP2;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^+K^-\pi^0]_D \pi^+) = -0.001 \pm 0.019$ NODE=S041AG2;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\pi^+\pi^-\pi^0]_D \pi^+) = 0.001 \pm 0.010$ NODE=S041AG3;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^-\pi^+]_{(D\pi)} \pi^+) = -0.09 \pm 0.27$ NODE=S041AC6;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^-\pi^+]_{(D\gamma)} \pi^+) = -0.7 \pm 0.6$ NODE=S041AC7;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^-\pi^+]_{(D\pi)} K^+) = 0.8 \pm 0.4$ NODE=S041AC8;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^-\pi^+]_{(D\gamma)} K^+) = 0.4 \pm 1.0$ NODE=S041AC9;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\pi^+\pi^-\pi^0]_D K^+) = -0.02 \pm 0.15$ NODE=S041AC2;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^0_S K^+\pi^-]_D K^+) = 0.00 \pm 0.09$ (S = 1.4) NODE=S041AC3;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^0_S K^-\pi^+]_D K^+) = 0.00 \pm 0.07$ NODE=S041ACA;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^0_S K^-\pi^+]_D \pi^+) = -0.003 \pm 0.014$ NODE=S041ACB;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^0_S K^+\pi^-]_D \pi^+) = -0.016 \pm 0.025$ (S = 1.5) NODE=S041ACC;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^*(892)^- K^+]_D K^+) = 0.08 \pm 0.05$ NODE=S041ACD;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^*(892)^+ K^-]_D K^+) = 0.07 \pm 0.09$ NODE=S041ACE;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^*(892)^+ K^-]_D \pi^+) = 0.007 \pm 0.016$ NODE=S041ACF;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^*(892)^- K^+]_D \pi^+) = -0.013 \pm 0.020$ (S = 1.9) NODE=S041ACG;DTYPE=a;CLUMP=E
$\boldsymbol{A_{CP}(B^+ \to D_{CP(+1)} K^+)} = 0.132 \pm 0.015$ (S = 1.8) NODE=S041AY3;DTYPE=a;CLUMP=E
$A_{ADS}(B^+ \to D K^+) = -0.451 \pm 0.026$ NODE=S041AA1;DTYPE=a;CLUMP=E
$A_{ADS}(B^+ \to D\pi^+) = 0.129 \pm 0.014$ NODE=S041AA2;DTYPE=a;CLUMP=E
$A_{ADS}(B^+ \to [D\gamma]_{D^*} K^+) = -0.6 \pm 1.3$ NODE=S041A45;DTYPE=a;CLUMP=E
$A_{ADS}(B^+ \to [D\pi^0]_{D^*} K^+) = 0.72 \pm 0.29$ NODE=S041A46;DTYPE=a;CLUMP=E
$A_{ADS}(B^+ \to [D\gamma]_{D^*} \pi^+) = 0.08 \pm 0.13$ NODE=S041A47;DTYPE=a;CLUMP=E
$A_{ADS}(B^+ \to [D\pi^0]_{D^*} \pi^+) = -0.14 \pm 0.06$ NODE=S041A48;DTYPE=a;CLUMP=E
$A_{ADS}(B^+ \to [K^-\pi^+]_D K^+\pi^-\pi^+) = -0.33 \pm 0.35$ NODE=S041AA3;DTYPE=a;CLUMP=E
$A_{ADS}(B^+ \to [K^-\pi^+]_D \pi^+\pi^-\pi^+) = -0.01 \pm 0.09$ NODE=S041AA4;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to D_{CP(-1)} K^+) = -0.14 \pm 0.05$ NODE=S041AY4;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^+K^-]_D K^+\pi^-\pi^+) = -0.04 \pm 0.06$ NODE=S041AA5;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\pi^+\pi^-]_D K^+\pi^-\pi^+) = -0.05 \pm 0.10$ NODE=S041AA6;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^-\pi^+]_D K^+\pi^-\pi^+) = 0.013 \pm 0.023$ NODE=S041AA7;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^+K^-]_D \pi^+\pi^-\pi^+) = -0.019 \pm 0.015$ NODE=S041AA8;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\pi^+\pi^-]_D \pi^+\pi^-\pi^+) = -0.013 \pm 0.019$ NODE=S041AA9;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [K^-\pi^+]_D \pi^+\pi^-\pi^+) = -0.002 \pm 0.011$ NODE=S041AA0;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\overline{D}^0\gamma]_{\overline{D}^*} \pi^+) = -0.004 \pm 0.004$ NODE=S041D29;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\overline{D}^0\pi^0]_{\overline{D}^*} \pi^+) = 0.0007 \pm 0.0022$ NODE=S041AD5;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\overline{D}^0\gamma]_{\overline{D}^{*0}_{CP(-1)}} \pi^+) = 0.000 \pm 0.015$ NODE=S041D31;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\overline{D}^0\pi^0]_{D^{*0}_{CP(+1)}} \pi^+) = 0.012 \pm 0.008$ NODE=S041AD6;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\overline{D}^0\pi^0]_{D^{*0}_{CP(-1)}} \pi^+) = -0.09 \pm 0.05$ NODE=S041AD7;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\overline{D}^0\gamma]_{\overline{D}^{*0}} K^+) = -0.004 \pm 0.014$ NODE=S041D30;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\overline{D}^0\pi^0]_{\overline{D}^{*0}} K^+) = 0.017 \pm 0.007$ NODE=S041AD8;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [\overline{D}^0\gamma]_{\overline{D}^{*0}_{CP(-1)}} K^+) = 0.12 \pm 0.06$ NODE=S041D32;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [D^0\pi^0]_{D^{*0}_{CP(+1)}} K^+) = -0.115 \pm 0.020$ NODE=S041AC+;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to [D^0\pi^0]_{D^{*0}_{CP(-1)}} K^+) = 0.07 \pm 0.10$ NODE=S041AD1;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to D_{CP(+1)} K^*(892)^+) = 0.08 \pm 0.06$ NODE=S041AD+;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to D_{CP(-1)} K^*(892)^+) = -0.23 \pm 0.22$ NODE=S041AD-;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to D_s^+ \phi) = 0.0 \pm 0.4$ NODE=S041ADP;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to D_s^+ \overline{D}^0) = (0.5 \pm 0.6)\%$ NODE=S041A10;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to D_s^{*+} \overline{D}^0) = (-0.5 \pm 1.5) \times 10^{-2}$ NODE=S041D14;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to D_s^+ \overline{D}^{*0}) = (1.1 \pm 1.1) \times 10^{-2}$ NODE=S041D15;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to D^{*+} \overline{D}^{*0}) = (1.3 \pm 2.6) \times 10^{-2}$ NODE=S041AS1;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to D^{*+} \overline{D}^0) = (3.1 \pm 1.7) \times 10^{-2}$ NODE=S041AS2;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to D^+ \overline{D}^{*0}) = (0.0 \pm 2.4) \times 10^{-2}$ NODE=S041AS3;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to D^+ \overline{D}^0) = (2.4 \pm 1.1) \times 10^{-2}$ NODE=S041AS4;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K_S^0 \pi^+) = -0.003 \pm 0.015$ (S = 1.1) NODE=S041AX4;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^+ \pi^0) = 0.027 \pm 0.012$ NODE=S041AX3;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \eta' K^+) = 0.004 \pm 0.011$ NODE=S041AX5;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \eta' K^*(892)^+) = -0.26 \pm 0.27$ NODE=S041CR7;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \eta' K_0^*(1430)^+) = 0.06 \pm 0.20$ NODE=S041CT7;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \eta' K_2^*(1430)^+) = 0.15 \pm 0.13$ NODE=S041CT8;DTYPE=a;CLUMP=E
$\boldsymbol{A_{CP}(B^+ \to \eta K^+)} = -0.37 \pm 0.08$ NODE=S041CP3;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \eta K^*(892)^+) = 0.02 \pm 0.06$ NODE=S041CP1;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \eta K_0^*(1430)^+) = 0.05 \pm 0.13$ NODE=S041CR5;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \eta K_2^*(1430)^+) = -0.45 \pm 0.30$ NODE=S041CR6;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \omega K^+) = -0.02 \pm 0.04$ NODE=S041AY1;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \omega K^{*+}) = 0.29 \pm 0.35$ NODE=S041CT0;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \omega (K\pi)_0^{*+}) = -0.10 \pm 0.09$ NODE=S041CT2;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \omega K_2^*(1430)^+) = 0.14 \pm 0.15$ NODE=S041CT3;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^{*0} \pi^+) = -0.021 \pm 0.032$ (S = 1.5) NODE=S041CQ4;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^*(892)^+ \pi^0) = -0.39 \pm 0.21$ (S = 1.6) NODE=S041CP8;DTYPE=a;CLUMP=E
$\boldsymbol{A_{CP}(B^+ \to K^+ \pi^- \pi^+)} = 0.015 \pm 0.006$ (S = 1.4) NODE=S041AY6;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^+ K^- K^+ \text{ nonresonant}) = 0.06 \pm 0.05$ NODE=S041CU6;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to f(980)^0 K^+) = -0.08 \pm 0.09$ NODE=S041CU7;DTYPE=a;CLUMP=E
$\boldsymbol{A_{CP}(B^+ \to f_2(1270) K^+)} = -0.68^{+0.19}_{-0.17}$ NODE=S041CR0;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to f_0(1500) K^+) = 0.28 \pm 0.30$ NODE=S041CS5;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to f_2'(1525)^0 K^+) = -0.08^{+0.05}_{-0.04}$ NODE=S041CQ5;DTYPE=a;CLUMP=E
$\boldsymbol{A_{CP}(B^+ \to \rho^0 K^+)} = 0.160 \pm 0.021$ NODE=S041CQ6;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^0 \pi^+ \pi^0) = 0.07 \pm 0.06$ NODE=S041A06;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K_0^*(1430)^0 \pi^+) = 0.061 \pm 0.032$ NODE=S041CQ7;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K_0^*(1430)^+ \pi^0) = 0.26^{+0.18}_{-0.14}$ NODE=S041A05;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K_2^*(1430)^0 \pi^+) = 0.05^{+0.29}_{-0.24}$ NODE=S041CS4;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^+ \pi^0 \pi^0) = -0.06 \pm 0.07$ NODE=S041CU4;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^0 \rho^+) = -0.03 \pm 0.15$ NODE=S041CR9;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^{*+} \pi^+ \pi^-) = 0.07 \pm 0.08$ NODE=S041AKP;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \rho^0 K^*(892)^+) = 0.31 \pm 0.13$ NODE=S041AZ1;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^*(892)^+ f_0(980)) = -0.15 \pm 0.12$ NODE=S041CR3;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to a_1^+ K^0) = 0.12 \pm 0.11$ NODE=S041CS1;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to b_1^+ K^0) = -0.03 \pm 0.15$ NODE=S041CS6;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^*(892)^0 \rho^+) = -0.01 \pm 0.16$ NODE=S041CR4;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to b_1^0 K^+) = -0.46 \pm 0.20$ NODE=S041CS2;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \overline{K}^0 K^+) = 0.04 \pm 0.14$ NODE=S041CQ8;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K_S^0 K^+) = -0.21 \pm 0.14$ NODE=S041CQA;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^+ K_S^0 K_S^0) = 0.025 \pm 0.031$ NODE=S041AY8;DTYPE=a;CLUMP=E
$\boldsymbol{A_{CP}(B^+ \to K^+ K^- \pi^+)} = -0.115 \pm 0.008$ NODE=S041CKK;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^+ K^- \pi^+ \text{ nonresonant}) = -0.11 \pm 0.06$ NODE=S041A18;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \pi^+ K^+ K^-,\ m_{K^+K^-} < 1.1 \text{ GeV}) = -0.17 \pm 0.07$ NODE=S041A82;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^+ \overline{K}^*(892)^0) = 0.04 \pm 0.05$ NODE=S041A12;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to K^+ \overline{K}_0^*(1430)^0) = 0.10 \pm 0.17$ NODE=S041A13;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \phi \pi^+) = 0.1 \pm 0.5$ NODE=S041A14;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \pi^+ (K^+ K^-)_{S-wave}) = -0.66 \pm 0.04$ NODE=S041A17;DTYPE=a;CLUMP=E
$\boldsymbol{A_{CP}(B^+ \to K^+ K^- K^+)} = -0.036 \pm 0.004$ NODE=S041AY7;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to \phi K^+) = 0.017 \pm 0.017$ (S = 1.8) NODE=S041AX7;DTYPE=a;CLUMP=E
$A_{CP}(B^+ \to X_0(1550) K^+) = -0.04 \pm 0.07$ NODE=S041CXK;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to K^{*+} K^+ K^-) = 0.11 \pm 0.09$ NODE=S041AKK;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \phi K^*(892)^+) = -0.01 \pm 0.08$ NODE=S041AX8;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \phi (K\pi)_0^{*+}) = 0.04 \pm 0.16$ NODE=S041CT1;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \phi K_1(1270)^+) = 0.15 \pm 0.20$ NODE=S041CS8;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \phi K_2^*(1430)^+) = -0.23 \pm 0.20$ NODE=S041CS9;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to K^+ \phi\phi) = -0.08 \pm 0.07$ NODE=S041CT9;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to K^+ [\phi\phi]_{\eta_c}) = 0.10 \pm 0.08$ NODE=S041CTB;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to K^*(892)^+ \gamma) = 0.008 \pm 0.015$ NODE=S041AKG;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to X_s \gamma) = 0.028 \pm 0.019$ NODE=S041A11;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \eta K^+ \gamma) = -0.12 \pm 0.07$ NODE=S041CQ3;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \phi K^+ \gamma) = -0.13 \pm 0.11$ (S = 1.1) NODE=S041APK;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \rho^+ \gamma) = (-9 \pm 14) \times 10^{-2}$ NODE=S041CS7;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \pi^+ \pi^0) = -0.01 \pm 0.04$ (S = 1.1) NODE=S041AX0;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \pi^+ \pi^- \pi^+)$ $= 0.076 \pm 0.008$ (S = 1.5) NODE=S041AY5;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \pi^+ \pi^0 \pi^0) = (9 \pm 7) \times 10^{-2}$ NODE=S041A77;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \rho^0 \pi^+) = 0.003 \pm 0.014$ NODE=S041CP4;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to f_2(1270) \pi^+) = 0.40 \pm 0.06$ NODE=S041CQ0;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \rho^0(1450) \pi^+) = -0.11 \pm 0.05$ NODE=S041CT4;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \rho_3(1690) \pi^+) = -0.80 \pm 0.28$ NODE=S041A16;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to f_0(1370) \pi^+)$ $= 0.72 \pm 0.22$ NODE=S041CT5;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \pi^+ \pi^- \pi^+ \text{ nonresonant}) = -0.14^{+0.23}_{-0.16}$ NODE=S041CT6;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \rho^+ \pi^0) = 0.03 \pm 0.10$ NODE=S041CP5;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to X \pi^+,\ X \to \pi^0 \pi^0) = 0.18 \pm 0.12$ NODE=S041A85;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \rho^+ \rho^0) = -0.05 \pm 0.05$ NODE=S041AY9;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \omega \pi^+) = -0.04 \pm 0.05$ NODE=S041AX6;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \omega \rho^+) = -0.20 \pm 0.09$ NODE=S041CP9;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \eta \pi^+) = -0.14 \pm 0.07$ (S = 1.4) NODE=S041CP2;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \eta \rho^+) = 0.11 \pm 0.11$ NODE=S041CQ2;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \eta' \pi^+) = 0.06 \pm 0.16$ NODE=S041CQ1;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \eta' \rho^+) = 0.26 \pm 0.17$ NODE=S041CR8;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to b_1^0 \pi^+) = 0.05 \pm 0.16$ NODE=S041CS3;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to p \overline{p} \pi^+) = 0.021 \pm 0.030$ NODE=S041CP6;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to p \overline{p} K^+) = -0.02 \pm 0.04$ (S = 1.9) NODE=S041CP7;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to p \overline{p} K^*(892)^+) = 0.21 \pm 0.16$ (S = 1.4) NODE=S041AW6;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to p \overline{\Lambda} \gamma) = 0.17 \pm 0.17$ NODE=S041CLG;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to p \overline{\Lambda} \pi^0) = 0.01 \pm 0.17$ NODE=S041CS0;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \overline{\Lambda} p \overline{p} p) = (5 \pm 16)\%$ NODE=S041D88;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to K^+ \ell^+ \ell^-) = -0.02 \pm 0.08$ NODE=S041CR1;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to K^+ e^+ e^-) = 0.14 \pm 0.14$ NODE=S041CU0;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to K^+ \mu^+ \mu^-) = 0.011 \pm 0.017$ NODE=S041CU1;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to \pi^+ \mu^+ \mu^-) = -0.11 \pm 0.12$ NODE=S041CU8;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to K^{*+} \ell^+ \ell^-) = -0.09 \pm 0.14$ NODE=S041CR2;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to K^* e^+ e^-) = -0.14 \pm 0.23$ NODE=S041CU2;DTYPE=a;CLUMP=E

$A_{CP}(B^+ \to K^* \mu^+ \mu^-) = -0.12 \pm 0.24$ NODE=S041CU3;DTYPE=a;CLUMP=E

γ $= (66.4^{+2.7}_{-2.8})^\circ$ NODE=S041GGM;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←

$r_B(B^+ \to D^0 K^+)$ $= (9.88^{+0.22}_{-0.21}) \times 10^{-2}$ NODE=S041ARX;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←

$\delta_B(B^+ \to D^0 K^+)$ $= (128.5^{+2.8}_{-3.0})^\circ$ NODE=S041DRX;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←

$r_B(B^+ \to D^0 \pi^+) = (17 \pm 5) \times 10^{-3}$ NODE=S041A32;DTYPE=a;CLUMP=E

$\delta_B(B^+ \to D^0 \pi^+) = (347 \pm 9)^\circ$ NODE=S041A33;DTYPE=a;CLUMP=E

$r_B(B^+ \to D^0 K^{*+})$ $= 0.101^{+0.016}_{-0.036}$ NODE=S041ARZ;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←

$\delta_B(B^+ \to D^0 K^{*+})$ $= (47^{+61}_{-16})^\circ$ NODE=S041DRZ;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←

$r_B(B^+ \to D^{*0} K^+)$ $= 0.103^{+0.010}_{-0.011}$ NODE=S041ARY;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←

$\delta_B(B^+ \to D^{*0} K^+)$ $= (312.2^{+6.3}_{-7.1})^\circ$ NODE=S041DRY;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←

B^- modes are charge conjugates of the modes below. Modes which do not identify the charge state of the B are listed in the $B^{\pm}/B^0$ ADMIXTURE section. NODE=S041210;NODE=S041

The branching fractions listed below assume 50% $B^0\overline{B}^0$ and 50% B^+B^- production at the $\Upsilon(4S)$. We have attempted to bring older measurements up to date by rescaling their assumed $\Upsilon(4S)$ production ratio to 50:50 and their assumed D, D_s, D^*, and ψ branching ratios to current values whenever this would affect our averages and best limits significantly.

Indentation is used to indicate a subchannel of a previous reaction. All resonant subchannels have been corrected for resonance branching fractions to the final state so the sum of the subchannel branching fractions can exceed that of the final state.

For inclusive branching fractions, *e.g.*, $B \to D^{\pm}X$, the values usually are multiplicities, not branching fractions. They can be greater than one.

B^+ DECAY MODES		Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)	
Semileptonic and leptonic modes					NODE=S041;CLUMP=A
$\ell^+\nu_\ell X$	[a]	(10.99 ± 0.28) %		–	DESIG=220
$e^+\nu_e X_c$		(10.8 ± 0.4) %		–	DESIG=473
$e^+\nu_e X$		(10.8 ± 2.7) %		–	DESIG=814
$\mu^+\nu_\mu X$		(11.3 ± 3.5) %		–	DESIG=813
$\ell^+\nu_\ell X_u$	[a]	(1.65 ± 0.21) $\times 10^{-3}$		–	DESIG=768
$D\ell^+\nu_\ell X$	[a]	(9.5 ± 0.7) %		–	DESIG=485
$\overline{D}^0\ell^+\nu_\ell$	[a]	(2.21 ± 0.06) %		2310	DESIG=145
$\tau^+\nu_\tau X$		(2.5 ± 0.4) %		–	DESIG=812
$\overline{D}^0\tau^+\nu_\tau$		(7.7 ± 2.5) $\times 10^{-3}$		1911	DESIG=498
$\overline{D}^*(2007)^0\ell^+\nu_\ell$	[a]	(5.53 ± 0.22) %		2258	DESIG=146
$\overline{D}^*(2007)^0\tau^+\nu_\tau$		(1.88 ± 0.20) %		1839	DESIG=499
$D^{(*)}\,\mathrm{n}\pi\ell^+\nu_\ell(\mathrm{n}\ \geq\ 1)$	[a]	(1.83 ± 0.25) %		–	DESIG=505
$D^-\pi^+\ell^+\nu_\ell$	[a]	(3.82 ± 0.20) $\times 10^{-3}$		2306	DESIG=418
$\overline{D}{}_2^*(2460)^0\ell^+\nu_\ell$, $\overline{D}{}_2^{*0} \to D^-\pi^+$	[a]	(1.59 ± 0.10) $\times 10^{-3}$		2065	DESIG=504
$\overline{D}{}_0^*(2420)^0\ell^+\nu_\ell$, $\overline{D}{}_0^{*0} \to D^-\pi^+$	[a]	(9 ± 5) $\times 10^{-4}$	S=2.6	–	DESIG=503
$D^{*-}\pi^+\ell^+\nu_\ell$	[a]	(5.42 ± 0.28) $\times 10^{-3}$		2254	DESIG=419
$\overline{D}_1(2420)^0\ell^+\nu_\ell$, $\overline{D}{}_1^0 \to D^{*-}\pi^+$	[a]	(2.84 ± 0.17) $\times 10^{-3}$	S=1.1	2084	DESIG=257
$\overline{D}{}'_1(2430)^0\ell^+\nu_\ell$, $\overline{D}{}'^0_1 \to D^{*-}\pi^+$	[a]	(1.7 ± 0.6) $\times 10^{-3}$	S=1.8	–	DESIG=502
$\overline{D}{}_2^*(2460)^0\ell^+\nu_\ell$, $\overline{D}{}_2^{*0} \to D^{*-}\pi^+$	[a]	(1.06 ± 0.18) $\times 10^{-3}$	S=1.7	2065	DESIG=258
$\overline{D}^0\pi^+\pi^-\ell^+\nu_\ell$	[a]	(1.73 ± 0.19) $\times 10^{-3}$		2301	DESIG=649
$\overline{D}_1(2420)^0\ell^+\nu_\ell$, $\overline{D}{}_1^0 \to \overline{D}^0\pi^+\pi^-$	[a]	(1.05 ± 0.14) $\times 10^{-3}$		–	DESIG=783
$\overline{D}^{*0}\pi^+\pi^-\ell^+\nu_\ell$	[a]	(7.0 ± 1.7) $\times 10^{-4}$		2248	DESIG=650
$D_s^{(*)-}K^+\ell^+\nu_\ell$	[a]	(6.1 ± 1.0) $\times 10^{-4}$		–	DESIG=616
$D_s^-K^+\ell^+\nu_\ell$	[a]	($3.0\ {}^{+1.4}_{-1.2}$) $\times 10^{-4}$		2242	DESIG=600
$D_s^{*-}K^+\ell^+\nu_\ell$	[a]	(2.9 ± 1.9) $\times 10^{-4}$		2185	DESIG=571
$\pi^0\ell^+\nu_\ell$	[a]	(7.80 ± 0.27) $\times 10^{-5}$		2638	DESIG=417
$\eta\ell^+\nu_\ell$	[a]	(3.5 ± 0.4) $\times 10^{-5}$		2611	DESIG=327
$\eta'\ell^+\nu_\ell$	[a]	(2.4 ± 0.7) $\times 10^{-5}$		2553	DESIG=479
$\omega\ell^+\nu_\ell$	[a]	(1.19 ± 0.09) $\times 10^{-4}$		2582	DESIG=173
$\rho^0\ell^+\nu_\ell$	[a]	(1.58 ± 0.11) $\times 10^{-4}$		2583	DESIG=174
$\pi^+\pi^-\ell^+\nu_\ell$	[a]	(2.3 ± 0.4) $\times 10^{-4}$		2636	DESIG=767
$p\overline{p}\ell^+\nu_\ell$	[a]	($5.8\ {}^{+2.6}_{-2.3}$) $\times 10^{-6}$		2467	DESIG=630

$p \overline{p} \mu^+ \nu_\mu$		(5.32 ± 0.33)	$\times 10^{-6}$		2446	DESIG=631
$p \overline{p} e^+ \nu_e$		$(8.2 {}^{+4.0}_{-3.3})$	$\times 10^{-6}$		2467	DESIG=319
$e^+ \nu_e$		< 9.8	$\times 10^{-7}$	CL=90%	2640	DESIG=182
$\mu^+ \nu_\mu$		< 8.6	$\times 10^{-7}$	CL=90%	2639	DESIG=183
$\tau^+ \nu_\tau$		(1.12 ± 0.19)	$\times 10^{-4}$		2341	DESIG=184
$\ell^+ \nu_\ell \gamma$	[a]	< 3.0	$\times 10^{-6}$	CL=90%	2640	DESIG=547
$e^+ \nu_e \gamma$		< 4.3	$\times 10^{-6}$	CL=90%	2640	DESIG=234
$\mu^+ \nu_\mu \gamma$		< 3.4	$\times 10^{-6}$	CL=90%	2639	DESIG=235
$\mu^+ \mu^- \mu^+ \nu_\mu$		< 1.6	$\times 10^{-8}$	CL=95%	2634	DESIG=729

Inclusive modes NODE=S041;CLUMP=J

$D^0 X$		(8.6 ± 0.7) %			–	DESIG=380
$\overline{D}^0 X$		(79 ± 4) %			–	DESIG=381
$D^+ X$		(2.5 ± 0.5) %			–	DESIG=382
$D^- X$		(9.9 ± 1.2) %			–	DESIG=383
$D_s^+ X$		$(7.9 {}^{+1.4}_{-1.3})$ %			–	DESIG=384
$D_s^- X$		$(1.10 {}^{+0.40}_{-0.32})$ %			–	DESIG=385
$\Lambda_c^+ X$		$(2.1 {}^{+0.9}_{-0.6})$ %			–	DESIG=386
$\overline{\Lambda}_c^- X$		$(2.8 {}^{+1.1}_{-0.9})$ %			–	DESIG=387
$\overline{c} X$		(97 ± 4) %			–	DESIG=388
$c X$		$(23.4 {}^{+2.2}_{-1.8})$ %			–	DESIG=389
$c / \overline{c} X$		(120 ± 6) %			–	DESIG=390

D*, *D*, or *D*$_s$ modes** NODE=S041;CLUMP=B

$\overline{D}^0 \pi^+$		(4.61 ± 0.10)	$\times 10^{-3}$		2308	DESIG=1
$D_{CP(+1)} \pi^+$	[b]	(2.04 ± 0.20)	$\times 10^{-3}$		–	DESIG=314
$D_{CP(-1)} \pi^+$	[b]	(2.1 ± 0.4)	$\times 10^{-3}$		–	DESIG=315
$\overline{D}^0 \rho^+$		(9.7 ± 1.1)	$\times 10^{-3}$	S=2.1	2237	DESIG=25
$\overline{D}^0 K^+$		(3.64 ± 0.15)	$\times 10^{-4}$		2281	DESIG=256
$D_{CP(+1)} K^+$	[b]	(1.81 ± 0.08)	$\times 10^{-4}$		–	DESIG=316
$D_{CP(-1)} K^+$	[b]	(2.04 ± 0.13)	$\times 10^{-4}$		–	DESIG=317
$D^0 K^+$		(3.60 ± 0.24)	$\times 10^{-6}$		2281	DESIG=724
$[K^- \pi^+]_D K^+$	[c]	< 2.8	$\times 10^{-7}$	CL=90%	–	DESIG=358
$[K^+ \pi^-]_D K^+$	[c]	< 1.6	$\times 10^{-5}$	CL=90%	–	DESIG=359
$[K^- \pi^+ \pi^0]_D K^+$		seen			–	DESIG=480;OUR EVAL;→ UNCHECKED ←
$[K^+ \pi^- \pi^0]_D K^+$		seen			–	DESIG=481;OUR EVAL;→ UNCHECKED ←
$[K^- \pi^+ \pi^+ \pi^-]_D K^+$		seen			–	DESIG=624;OUR EVAL;→ UNCHECKED ←
$[K^+ \pi^- \pi^+ \pi^-]_D K^+$		seen			–	DESIG=625;OUR EVAL;→ UNCHECKED ←
$[K^- \pi^+]_D \pi^+$	[c]	(6.3 ± 1.1)	$\times 10^{-7}$		–	DESIG=399
$[K^+ \pi^-]_D \pi^+$		(1.72 ± 0.30)	$\times 10^{-4}$		–	DESIG=533
$[K^- \pi^+ \pi^0]_D \pi^+$		seen			–	DESIG=628;OUR EVAL;→ UNCHECKED ←
$[K^+ \pi^- \pi^0]_D \pi^+$		seen			–	DESIG=629;OUR EVAL;→ UNCHECKED ←
$[K^- \pi^+ \pi^+ \pi^-]_D \pi^+$		seen			–	DESIG=626;OUR EVAL;→ UNCHECKED ←
$[K^+ \pi^- \pi^+ \pi^-]_D \pi^+$		seen			–	DESIG=627;OUR EVAL;→ UNCHECKED ←
$[\pi^+ \pi^- \pi^0]_D K^-$		(4.6 ± 0.9)	$\times 10^{-6}$		–	DESIG=420
$[K_S^0 K^+ \pi^-]_D K^+$		seen			–	DESIG=635;OUR EVAL;→ UNCHECKED ←
$[K_S^0 K^- \pi^+]_D K^+$		seen			–	DESIG=637;OUR EVAL;→ UNCHECKED ←
$[K^*(892)^+ K^-]_D K^+$		seen			–	DESIG=638;OUR EVAL;→ UNCHECKED ←
$[K_S^0 K^- \pi^+]_D \pi^+$		seen			–	DESIG=639;OUR EVAL;→ UNCHECKED ←
$[K^*(892)^+ K^-]_D \pi^+$		seen			–	DESIG=640;OUR EVAL;→ UNCHECKED ←
$[K_S^0 K^+ \pi^-]_D \pi^+$		seen			–	DESIG=641;OUR EVAL;→ UNCHECKED ←
$[K^*(892)^- K^+]_D \pi^+$		seen			–	DESIG=642;OUR EVAL;→ UNCHECKED ←
$\overline{D}^0 K^*(892)^+$		(5.3 ± 0.4)	$\times 10^{-4}$		2213	DESIG=279
$D_{CP(-1)} K^*(892)^+$	[b]	(2.7 ± 0.8)	$\times 10^{-4}$		–	DESIG=423
$D_{CP(+1)} K^*(892)^+$	[b]	(6.2 ± 0.7)	$\times 10^{-4}$		–	DESIG=424

$D^0 K^*(892)^+$		$(5.4 ^{+1.8}_{-4.0}) \times 10^{-6}$		2213	DESIG=725
$\overline{D}^0 K^+ \pi^+ \pi^-$		$(5.2 \pm 2.1) \times 10^{-4}$		2237	DESIG=601
$\overline{D}^0 K^+ \overline{K}^0$		$(3.75 \pm 0.35) \times 10^{-4}$		2189	DESIG=286
$\overline{D}^0 K^+ \overline{K}^*(892)^0$		$(7.2 \pm 0.5) \times 10^{-4}$		2071	DESIG=288
$\overline{D}^0 \pi^+ \pi^+ \pi^-$		$(5.5 \pm 2.0) \times 10^{-3}$	S=3.6	2289	DESIG=165
$\overline{D}^0 \pi^+ \pi^+ \pi^-$ nonresonant		$(5 \pm 4) \times 10^{-3}$		2289	DESIG=166
$\overline{D}^0 \pi^+ \rho^0$		$(4.2 \pm 3.0) \times 10^{-3}$		2208	DESIG=167
$\overline{D}^0 a_1(1260)^+$		$(4 \pm 4) \times 10^{-3}$		2123	DESIG=168
$\overline{D}^0 \omega \pi^+$		$(4.1 \pm 0.9) \times 10^{-3}$		2206	DESIG=276
$D^*(2010)^- \pi^+ \pi^+$		$(1.35 \pm 0.22) \times 10^{-3}$		2247	DESIG=2
$D^*(2010)^- K^+ \pi^+$		$(8.2 \pm 1.4) \times 10^{-5}$		2206	DESIG=705
$\overline{D}_1(2420)^0 \pi^+$, $\overline{D}^0_1 \to D^*(2010)^- \pi^+$		$(8.4 \pm 1.5) \times 10^{-4}$		2081	DESIG=580
$D^- \pi^+ \pi^+$		$(1.07 \pm 0.05) \times 10^{-3}$		2299	DESIG=14
$D^- K^+ \pi^+$		$(7.7 \pm 0.5) \times 10^{-5}$		2260	DESIG=665
$D^*_0(2300)^0 K^+$, $D^{*0}_0 \to D^- \pi^+$		$(6.1 \pm 2.4) \times 10^{-6}$		–	DESIG=666
$D^*_2(2460)^0 K^+$, $D^{*0}_2 \to D^- \pi^+$		$(2.32 \pm 0.23) \times 10^{-5}$		–	DESIG=668
$D^*_1(2760)^0 K^+$, $D^{*0}_1 \to D^- \pi^+$		$(3.6 \pm 1.2) \times 10^{-6}$		–	DESIG=667
$D^+ K^0$		$< 2 \times 10^{-6}$	CL=90%	2278	DESIG=398
$D^+ K^+ \pi^-$		$(5.6 \pm 1.1) \times 10^{-6}$		2260	DESIG=687
$D^+ \eta$		$< 1.2 \times 10^{-5}$	CL=90%	2272	DESIG=778
$D^*_2(2460)^0 K^+$, $D^{*0}_2 \to D^+ \pi^-$		$< 6.3 \times 10^{-7}$	CL=90%	–	DESIG=688
$D^+ K^{*0}$		$< 4.9 \times 10^{-7}$	CL=90%	2211	DESIG=565
$D^+ \overline{K}^{*0}$		$< 1.4 \times 10^{-6}$	CL=90%	2211	DESIG=614
$\overline{D}^*(2007)^0 \pi^+$		$(5.17 \pm 0.15) \times 10^{-3}$		2256	DESIG=15
$\overline{D}^{*0}_{CP(+1)} \pi^+$	[d]	$(2.9 \pm 0.6) \times 10^{-3}$		–	DESIG=432
$D^{*0}_{CP(-1)} \pi^+$	[d]	$(2.6 \pm 1.0) \times 10^{-3}$		–	DESIG=441
$\overline{D}^*(2007)^0 \omega \pi^+$		$(4.5 \pm 1.2) \times 10^{-3}$		2149	DESIG=275
$\overline{D}^*(2007)^0 \rho^+$		$(9.8 \pm 1.7) \times 10^{-3}$		2182	DESIG=169
$\overline{D}^*(2007)^0 K^+$		$(4.19 ^{+0.31}_{-0.28}) \times 10^{-4}$		2227	DESIG=270
$\overline{D}^{*0}_{CP(+1)} K^+$	[d]	$(2.75 \pm 0.35) \times 10^{-4}$		–	DESIG=433
$\overline{D}^{*0}_{CP(-1)} K^+$	[d]	$(2.31 \pm 0.31) \times 10^{-4}$		–	DESIG=442
$D^*(2007)^0 K^+$		$(4.5 \pm 1.2) \times 10^{-6}$		2227	DESIG=726
$\overline{D}^*(2007)^0 K^*(892)^+$		$(8.1 \pm 1.4) \times 10^{-4}$		2156	DESIG=280
$\overline{D}^*(2007)^0 K^+ \overline{K}^0$		$(2.9 \pm 0.6) \times 10^{-4}$		2132	DESIG=287
$\overline{D}^*(2007)^0 K^+ \overline{K}^*(892)^0$		$(1.23 \pm 0.14) \times 10^{-3}$		2009	DESIG=289
$\overline{D}^*(2007)^0 \pi^+ \pi^+ \pi^-$		(1.03 ± 0.12) %		2236	DESIG=211
$\overline{D}^*(2007)^0 a_1(1260)^+$		(1.9 ± 0.5) %		2063	DESIG=221
$\overline{D}^*(2007)^0 \pi^- \pi^+ \pi^+ \pi^0$		(1.8 ± 0.4) %		2219	DESIG=274
$\overline{D}^{*0} 3\pi^+ 2\pi^-$		$(5.7 \pm 1.2) \times 10^{-3}$		2196	DESIG=379
$D^*(2010)^+ \pi^0$		$< 3.6 \times 10^{-6}$		2255	DESIG=240
$D^*(2010)^+ K^0$		$< 9.0 \times 10^{-6}$	CL=90%	2225	DESIG=269
$D^*(2010)^- \pi^+ \pi^+ \pi^0$		(1.5 ± 0.7) %		2235	DESIG=12
$D^*(2010)^- \pi^+ \pi^+ \pi^+ \pi^-$		$(2.6 \pm 0.4) \times 10^{-3}$		2217	DESIG=141
$\overline{D}^{**0} \pi^+$	[e]	$(5.6 \pm 1.2) \times 10^{-3}$		–	DESIG=464
$\overline{D}^*_1(2420)^0 \pi^+$		$(1.5 \pm 0.6) \times 10^{-3}$	S=1.3	2081	DESIG=214
$\overline{D}_1(2420)^0 \pi^+ \times$ B($\overline{D}^0_1 \to \overline{D}^0 \pi^+ \pi^-$)		$(2.5 ^{+1.6}_{-1.4}) \times 10^{-4}$	S=3.8	2081	DESIG=443
$\overline{D}_1(2420)^0 \pi^+ \times$ B($\overline{D}^0_1 \to \overline{D}^0 \pi^+ \pi^-$ (nonresonant))		$(2.2 \pm 0.9) \times 10^{-4}$		2081	DESIG=579
$\overline{D}_1(2430)^0 \pi^+$, $\overline{D}^0_1 \to D^*(2010)^- \pi^+$		$(3.5 \pm 0.6) \times 10^{-4}$		2079	DESIG=739

$\overline{D}(2550)^0\pi^+$, $\overline{D}^0 \to D^*(2010)^-\pi^+$	$(7.2 \pm 1.4) \times 10^{-5}$		–	DESIG=740
$\overline{D}^*_J(2600)^0\pi^+$, $\overline{D}^{*0}_J \to D^*(2010)^-\pi^+$	$(6.8 \pm 1.3) \times 10^{-5}$		–	DESIG=741
$\overline{D}^*_2(2462)^0\pi^+$, $\overline{D}^{*0}_2 \to D^-\pi^+$	$(3.56 \pm 0.24) \times 10^{-4}$		–	DESIG=348
$\overline{D}^*_2(2462)^0\pi^+$, $\overline{D}^{*0}_2 \to \overline{D}^0\pi^-\pi^+$	$(2.2 \pm 1.0) \times 10^{-4}$		–	DESIG=581
$\overline{D}^*_2(2462)^0\pi^+$, $\overline{D}^{*0}_2 \to \overline{D}^0\pi^-\pi^+$ (nonresonant)	$< 1.6 \times 10^{-4}$	CL=90%	–	DESIG=583
$\overline{D}^*_2(2462)^0\pi^+$, $\overline{D}^{*0}_2 \to D^*(2010)^-\pi^+$	$(2.1 \pm 1.0) \times 10^{-4}$		–	DESIG=582
$\overline{D}^*_0(2400)^0\pi^+ \times \mathrm{B}(\overline{D}^*_0(2400)^0 \to D^-\pi^+)$	$(6.4 \pm 1.4) \times 10^{-4}$		2136	DESIG=349
$\overline{D}_1(2421)^0\pi^+$, $\overline{D}^0_1 \to D^{*-}\pi^+$	$(7.4 \pm 1.0) \times 10^{-4}$		–	DESIG=350
$\overline{D}^*_2(2462)^0\pi^+$, $\overline{D}^{*0}_2 \to D^{*-}\pi^+$	$(1.98 \pm 0.30) \times 10^{-4}$		–	DESIG=351
$\overline{D}'_1(2427)^0\pi^+$, $\overline{D}'^0_1 \to D^{*-}\pi^+$	$(3.5 \pm 0.9) \times 10^{-4}$	S=1.5	–	DESIG=352
$\overline{D}_1(2420)^0\pi^+ \times \mathrm{B}(\overline{D}^0_1 \to \overline{D}^{*0}\pi^+\pi^-)$	$< 6 \times 10^{-6}$	CL=90%	2081	DESIG=444
$\overline{D}^*_1(2420)^0\rho^+$	$< 1.4 \times 10^{-3}$	CL=90%	1996	DESIG=215
$\overline{D}^*_2(2460)^0\pi^+$	$< 1.3 \times 10^{-3}$	CL=90%	2063	DESIG=212
$\overline{D}^*_2(2460)^0\pi^+ \times \mathrm{B}(\overline{D}^{*0}_2 \to \overline{D}^{*0}\pi^+\pi^-)$	$< 2.2 \times 10^{-5}$	CL=90%	2063	DESIG=445
$\overline{D}^*_1(2680)^0\pi^+$, $\overline{D}^*_1(2680)^0 \to D^-\pi^+$	$(8.4 \pm 2.1) \times 10^{-5}$		–	DESIG=701
$\overline{D}(2740)^0\pi^+$, $\overline{D}^0 \to D^*(2010)^-\pi^+$	$(3.3 \pm 1.5) \times 10^{-5}$		–	DESIG=742
$\overline{D}^*_3(2750)^0\pi^+$, $\overline{D}^{*0}_3 \to D^*(2010)^-\pi^+$	$(1.10 \pm 0.32) \times 10^{-5}$		1913	DESIG=743
$\overline{D}^*_3(2760)^0\pi^+$, $\overline{D}^*_3(2760)^0\pi^+ \to D^-\pi^+$	$(1.00 \pm 0.22) \times 10^{-5}$		–	DESIG=702
$\overline{D}^*_2(3000)^0\pi^+$, $\overline{D}^*_2(3000)^0\pi^+ \to D^-\pi^+$	$(2.0 \pm 1.4) \times 10^{-6}$		–	DESIG=703
$\overline{D}^*_2(2460)^0\rho^+$	$< 4.7 \times 10^{-3}$	CL=90%	1977	DESIG=213
$\overline{D}^0 D^+_s$	$(9.3 \pm 0.6) \times 10^{-3}$		1815	DESIG=72
$D^*_{s0}(2317)^+\overline{D}^0$, $D^{*+}_{s0} \to D^+_s\pi^0$	$(7.9 {}^{+1.5}_{-1.3}) \times 10^{-4}$		1605	DESIG=321
$D_{s0}(2317)^+\overline{D}^0 \times \mathrm{B}(D_{s0}(2317)^+ \to D^{*+}_s\gamma)$	$< 7.6 \times 10^{-4}$	CL=90%	1605	DESIG=391
$D_{s0}(2317)^+\overline{D}^*(2007)^0 \times \mathrm{B}(D_{s0}(2317)^+ \to D^+_s\pi^0)$	$(9 \pm 7) \times 10^{-4}$		1511	DESIG=26
$D_{sJ}(2457)^+\overline{D}^0$	$(3.1 {}^{+1.0}_{-0.9}) \times 10^{-3}$		–	DESIG=322
$D_{sJ}(2457)^+\overline{D}^0 \times \mathrm{B}(D_{sJ}(2457)^+ \to D^+_s\gamma)$	$(4.6 {}^{+1.3}_{-1.1}) \times 10^{-4}$		–	DESIG=28
$D_{sJ}(2457)^+\overline{D}^0 \times \mathrm{B}(D_{sJ}(2457)^+ \to D^+_s\pi^+\pi^-)$	$< 2.2 \times 10^{-4}$	CL=90%	–	DESIG=392
$D_{sJ}(2457)^+\overline{D}^0 \times \mathrm{B}(D_{sJ}(2457)^+ \to D^+_s\pi^0)$	$< 2.7 \times 10^{-4}$	CL=90%	–	DESIG=393
$D_{sJ}(2457)^+\overline{D}^0 \times \mathrm{B}(D_{sJ}(2457)^+ \to D^{*+}_s\gamma)$	$< 9.8 \times 10^{-4}$	CL=90%	–	DESIG=394
$D_{sJ}(2457)^+\overline{D}^*(2007)^0$	(1.20 ± 0.30) %		–	DESIG=27
$D_{sJ}(2457)^+\overline{D}^*(2007)^0 \times \mathrm{B}(D_{sJ}(2457)^+ \to D^+_s\gamma)$	$(1.4 {}^{+0.7}_{-0.6}) \times 10^{-3}$		–	DESIG=29

$\overline{D}^0 D_{s1}(2536)^+ \times$ B$(D_{s1}(2536)^+ \to D^*(2007)^0 K^+ + D^*(2010)^+ K^0)$	$(4.0 \pm 1.0) \times 10^{-4}$		1447	DESIG=566
$\overline{D}^0 D_{s1}(2536)^+ \times$ B$(D_{s1}(2536)^+ \to D^*(2007)^0 K^+)$	$(2.2 \pm 0.7) \times 10^{-4}$		1447	DESIG=341
$\overline{D}^*(2007)^0 D_{s1}(2536)^+ \times$ B$(D_{s1}(2536)^+ \to D^*(2007)^0 K^+)$	$(5.5 \pm 1.6) \times 10^{-4}$		1339	DESIG=342
$\overline{D}^0 D_{s1}(2536)^+ \times$ B$(D_{s1}(2536)^+ \to D^{*+} K^0)$	$(2.3 \pm 1.1) \times 10^{-4}$		1447	DESIG=482
$\overline{D}^0 D_{sJ}(2700)^+ \times$ B$(D_{sJ}(2700)^+ \to D^0 K^+)$	$(5.6 \pm 1.8) \times 10^{-4}$	S=1.7	–	DESIG=500
$\overline{D}^{*0} D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*+} K^0$	$(3.9 \pm 2.6) \times 10^{-4}$		1339	DESIG=483
$\overline{D}^0 D_{sJ}(2573)^+$, $D_{sJ}^+ \to D^0 K^+$	$(8 \pm 15) \times 10^{-6}$		–	DESIG=644
$\overline{D}^{*0} D_{sJ}(2573)$, $D_{sJ}^+ \to D^0 K^+$	$< 2 \times 10^{-4}$	CL=90%	1306	DESIG=343
$\overline{D}^*(2007)^0 D_{sJ}(2573)$, $D_{sJ}^+ \to D^0 K^+$	$< 5 \times 10^{-4}$	CL=90%	1306	DESIG=344
$\overline{D}^0 D_s^{*+}$	$(7.6 \pm 1.6) \times 10^{-3}$		1734	DESIG=175
$\overline{D}^*(2007)^0 D_s^+$	$(7.0 \pm 1.0) \times 10^{-3}$		1737	DESIG=176
$\overline{D}^*(2007)^0 D_s^{*+}$	(1.71 ± 0.24) %		1651	DESIG=177
$D_s^{(*)+} \overline{D}^{**0}$	(2.7 ± 1.2) %		–	DESIG=264
$\overline{D}^*(2007)^0 D^*(2010)^+$	$(8.1 \pm 1.7) \times 10^{-4}$		1713	DESIG=259
$\overline{D}^0 D^*(2010)^+ + \overline{D}^*(2007)^0 D^+$	< 1.30 %	CL=90%	1792	DESIG=260
$\overline{D}^0 D^*(2010)^+$	$(3.9 \pm 0.5) \times 10^{-4}$		1792	DESIG=438
$\overline{D}^0 D^+$	$(3.8 \pm 0.4) \times 10^{-4}$		1866	DESIG=261
$\overline{D}^0 D^+ K^0$	$(1.55 \pm 0.21) \times 10^{-3}$		1571	DESIG=328
$D^+ \overline{D}^*(2007)^0$	$(6.3 \pm 1.7) \times 10^{-4}$		1791	DESIG=459
$\overline{D}^*(2007)^0 D^+ K^0$	$(2.1 \pm 0.5) \times 10^{-3}$		1475	DESIG=329
$\overline{D}^0 D^*(2010)^+ K^0$	$(3.8 \pm 0.4) \times 10^{-3}$		1476	DESIG=330
$\overline{D}^*(2007)^0 D^*(2010)^+ K^0$	$(9.2 \pm 1.2) \times 10^{-3}$		1362	DESIG=331
$\overline{D}^0 D^0 K^+$	$(1.45 \pm 0.33) \times 10^{-3}$	S=2.6	1577	DESIG=332
$\overline{D}^*(2007)^0 D^0 K^+$	$(2.26 \pm 0.23) \times 10^{-3}$		1481	DESIG=333
$\overline{D}^0 D^*(2007)^0 K^+$	$(6.3 \pm 0.5) \times 10^{-3}$		1481	DESIG=334
$\overline{D}^*(2007)^0 D^*(2007)^0 K^+$	(1.12 ± 0.13) %		1368	DESIG=335
$D^- D^+ K^+$	$(2.2 \pm 0.7) \times 10^{-4}$		1571	DESIG=336
$T^*_{cs0}(2870)^0 D^+$, $T^{*0}_{cs0} \to D^- K^+$	$(1.2 \pm 0.5) \times 10^{-5}$		–	DESIG=763
$T^*_{cs1}(2900)^0 D^+$, $T^{*0}_{cs1} \to D^- K^+$	$(6.7 \pm 2.3) \times 10^{-5}$		–	DESIG=764
$D^- D^+ K^+$ nonresonant	$(5.3 \pm 1.8) \times 10^{-5}$		1571	DESIG=765
$D^- D^*(2010)^+ K^+$	$(6.3 \pm 1.1) \times 10^{-4}$		1475	DESIG=337
$D^*(2010)^- D^+ K^+$	$(6.0 \pm 1.3) \times 10^{-4}$		1475	DESIG=338
EFF $K+$,EFF $\to D^*(2010)^\mp D^\pm$	$(1.5 \pm 0.4) \times 10^{-4}$		1475	DESIG=821
$\eta_c(3945) K^+$, $\eta_c \to D^*(2010)^\mp D^\pm$	$(4.6 {}^{+2.7}_{-1.7}) \times 10^{-5}$		–	DESIG=822
$\chi_{c2}(3930) K^+$, $\chi_{c2} \to D^*(2010)^\mp D^\pm$	$(2.4 {}^{+1.0}_{-1.7}) \times 10^{-5}$		–	DESIG=823
$h_c(4000) K^+$, $h_c \to D^*(2010)^\mp D^\pm$	$(7.0 {}^{+2.5}_{-1.6}) \times 10^{-5}$		–	DESIG=824
$\chi_{c1}(4010) K^+$, $\chi_{c1} \to D^*(2010)^\mp D^\pm$	$(1.38 {}^{+0.31}_{-0.28}) \times 10^{-4}$		–	DESIG=825

$\psi(4040) K^+$, $\psi \to D^*(2010)^{\mp} D^{\pm}$	$(3.8 {}^{+1.1}_{-0.9}) \times 10^{-5}$		–	DESIG=826
$h_c(4300) K^+$, $h_c \to D^*(2010)^{\mp} D^{\pm}$	$(1.6 {}^{+0.4}_{-0.7}) \times 10^{-5}$		–	DESIG=827
$T^*_{\overline{c}s0}(2870)^0 K^+$, $T^{*0}_{\overline{c}s0} \to D^*(2010)^{\mp} D^{\pm}$	$(4.5 {}^{+1.2}_{-1.4}) \times 10^{-5}$		–	DESIG=828
$T^*_{\overline{c}s1}(2900)^0 K^+$, $T^{*0}_{\overline{c}s1} \to D^*(2010)^{\mp} D^{\pm}$	$(3.8 {}^{+1.7}_{-1.6}) \times 10^{-5}$		–	DESIG=829
$\mathrm{NR}\, K^+$, $\mathrm{NR} \to D^*(2010)^{\mp} D^{\pm}$	$(2.8 {}^{+0.5}_{-0.4}) \times 10^{-4}$		–	DESIG=830
$\mathrm{NR}\, K^+$, $\mathrm{NR} \to D^*(2010)^{\mp} D^{\pm}$	$(1.6 {}^{+1.3}_{-0.8}) \times 10^{-5}$		–	DESIG=831
$\mathrm{NR}\, K^+$, $\mathrm{NR} \to D^*(2010)^{\mp} D^{\pm}$	$(2.4 {}^{+0.6}_{-0.4}) \times 10^{-4}$		–	DESIG=832
$\mathrm{NR}\, K^+$, $\mathrm{NR} \to D^*(2010)^{\mp} D^{\pm}$	$(2.2 {}^{+0.7}_{-0.5}) \times 10^{-4}$		–	DESIG=833
$D^*(2010)^- D^*(2010)^+ K^+$	$(1.32 \pm 0.18) \times 10^{-3}$		1363	DESIG=339
$(\overline{D}+\overline{D}^*)(D+D^*) K$	(4.05 ± 0.30) %		–	DESIG=340
$D_s^- D_s^+ K^+$	$(1.2 \pm 0.4) \times 10^{-4}$		1429	DESIG=789
$D_s^+ \pi^0$	$(1.6 \pm 0.5) \times 10^{-5}$		2270	DESIG=192
$D_s^{*+} \pi^0$	$< 2.6 \times 10^{-4}$	CL=90%	2215	DESIG=193
$D_s^+ \eta$	$< 1.4 \times 10^{-5}$	CL=90%	2235	DESIG=206
$D_s^{*+} \eta$	$< 1.7 \times 10^{-5}$	CL=90%	2178	DESIG=207
$D_s^+ \rho^0$	$< 3.0 \times 10^{-4}$	CL=90%	2197	DESIG=186
$D_s^{*+} \rho^0$	$< 4 \times 10^{-4}$	CL=90%	2138	DESIG=188
$D_s^+ \omega$	$< 4 \times 10^{-4}$	CL=90%	2195	DESIG=194
$D_s^{*+} \omega$	$< 6 \times 10^{-4}$	CL=90%	2136	DESIG=195
$D_s^+ a_1(1260)^0$	$< 1.8 \times 10^{-3}$	CL=90%	2080	DESIG=196
$D_s^{*+} a_1(1260)^0$	$< 1.3 \times 10^{-3}$	CL=90%	2015	DESIG=197
$D_s^+ K^+ K^-$	$(7.5 \pm 1.0) \times 10^{-6}$		2149	DESIG=711
$D_s^+ \phi$	$< 4.2 \times 10^{-7}$	CL=90%	2141	DESIG=198
$D_s^{*+} \phi$	$< 1.2 \times 10^{-5}$	CL=90%	2079	DESIG=199
$D_s^+ \overline{K}^0$	$< 3 \times 10^{-6}$	CL=90%	2242	DESIG=200
$D_s^{*+} \overline{K}^0$	$< 6 \times 10^{-6}$	CL=90%	2185	DESIG=31
$D_s^+ \overline{K}^*(892)^0$	$< 4.4 \times 10^{-6}$	CL=90%	2172	DESIG=187
$D_s^+ K^{*0}$	$< 3.5 \times 10^{-6}$	CL=90%	2172	DESIG=615
$D_s^{*+} \overline{K}^*(892)^0$	$< 3.5 \times 10^{-4}$	CL=90%	2112	DESIG=190
$D_s^- \pi^+ K^+$	$(1.80 \pm 0.22) \times 10^{-4}$		2222	DESIG=32
$D_s^{*-} \pi^+ K^+$	$(1.45 \pm 0.24) \times 10^{-4}$		2164	DESIG=33
$D_s^- \pi^+ K^*(892)^+$	$< 5 \times 10^{-3}$	CL=90%	2138	DESIG=34
$D_s^{*-} \pi^+ K^*(892)^+$	$< 7 \times 10^{-3}$	CL=90%	2076	DESIG=35
$D_s^- K^+ K^+$	$(9.7 \pm 2.1) \times 10^{-6}$		2149	DESIG=525
$D_s^{*-} K^+ K^+$	$< 1.5 \times 10^{-5}$	CL=90%	2088	DESIG=526
Charmonium modes				NODE=S041;CLUMP=C
$\eta_c K^+$	$(1.20 \pm 0.08) \times 10^{-3}$	S=1.3	1751	DESIG=265
$\eta_c K^*(892)^+$	$(1.4 {}^{+0.7}_{-0.5}) \times 10^{-3}$		1646	DESIG=496
$\eta_c K^+ \pi^+ \pi^-$	$< 3.9 \times 10^{-4}$	CL=90%	1684	DESIG=651
$\eta_c K^+ \omega(782)$	$< 5.3 \times 10^{-4}$	CL=90%	1475	DESIG=652
$\eta_c K^+ \eta$	$< 2.2 \times 10^{-4}$	CL=90%	1588	DESIG=653
$\eta_c K^+ \pi^0$	$< 6.2 \times 10^{-5}$	CL=90%	1723	DESIG=654
$\eta_c(2S) K^+$	$(4.4 \pm 1.0) \times 10^{-4}$		1320	DESIG=439
$\eta_c(2S) K^+$, $\eta_c \to p\overline{p}$	$(3.5 \pm 0.8) \times 10^{-8}$		–	DESIG=620

$\eta_c(2S) K^+$, $\eta_c \to K^0_S K^\mp \pi^\pm$		$(3.4 \,{}^{+\,2.3}_{-\,1.6}) \times 10^{-6}$		–	DESIG=576
$\eta_c(2S) K^+$, $\eta_c \to p\overline{p}\pi^+\pi^-$		$(1.12 \pm 0.18) \times 10^{-6}$		–	DESIG=731
$h_c(1P) K^+$, $h_c \to J/\psi\pi^+\pi^-$		$< 3.4 \times 10^{-6}$	CL=90%	1401	DESIG=434
$X(3730)^0 K^+$, $X^0 \to \eta_c\eta$		$< 4.6 \times 10^{-5}$	CL=90%	–	DESIG=655
$X(3730)^0 K^+$, $X^0 \to \eta_c\pi^0$		$< 5.7 \times 10^{-6}$	CL=90%	–	DESIG=656
$\eta_{c2}(1D) K^+$, $\eta_{c2} \to h_c\gamma$		$< 3.7 \times 10^{-5}$	CL=90%	–	DESIG=746
$\eta_{c2}(1D)\pi^+ K^0_S$, $\eta_{c2} \to h_c\gamma$		$< 1.1 \times 10^{-4}$	CL=90%	–	DESIG=747
$\psi_2(3823) K^+$, $\psi_2 \to J/\psi\pi^+\pi^-$		$(2.8 \pm 0.6) \times 10^{-7}$		–	DESIG=745
$\psi_2(3823) K^+$, $\psi_2 \to J/\psi\eta$		$(1.2 \,{}^{+\,0.7}_{-\,0.5}) \times 10^{-6}$		–	DESIG=769
$\psi_3(3842) K^+$, $\psi_3 \to J/\psi\eta$		$< 6.1 \times 10^{-7}$	CL=90%	–	DESIG=771
$\chi_{c1}(3872) K^+$		$(1.9 \pm 0.6) \times 10^{-4}$		1141	DESIG=440
$\chi_{c0}(3915) K^+$		$< 2.8 \times 10^{-4}$	CL=90%	1100	DESIG=709
$\chi_{c0}(3915) K^+$, $\chi_{c0} \to D^+ D^-$		$(8.1 \pm 3.3) \times 10^{-6}$		–	DESIG=758
$\chi_{c0}(3915) K^+$, $\chi_{c0} \to \eta_c\eta$		$< 4.7 \times 10^{-5}$	CL=90%	–	DESIG=659
$\chi_{c0}(3915) K^+$, $\chi_{c0} \to \eta_c\pi^0$		$< 1.7 \times 10^{-5}$	CL=90%	–	DESIG=660
$X(4014)^0 K^+$, $X^0 \to \eta_c\eta$		$< 3.9 \times 10^{-5}$	CL=90%	–	DESIG=661
$X(4014)^0 K^+$, $X^0 \to \eta_c\pi^0$		$< 1.2 \times 10^{-5}$	CL=90%	–	DESIG=662
$T_{c\overline{c}1}(3900)^0 K^+$, $T^0_{c\overline{c}1} \to \eta_c\pi^+\pi^-$		$< 4.7 \times 10^{-5}$	CL=90%	–	DESIG=663
$T_{c\overline{c}1}(3900)^0 K^+$, $T^0_{c\overline{c}1} \to J/\psi\eta$		$< 4.3 \times 10^{-7}$	CL=90%	–	DESIG=774
$T_{c\overline{c}}(4020)^0 K^+$, $T^0_{c\overline{c}} \to \eta_c\pi^+\pi^-$		$< 1.6 \times 10^{-5}$	CL=90%	–	DESIG=664
$\chi_{c1}(3872) K^*(892)^+$		$< 5 \times 10^{-4}$	CL=90%	939	DESIG=757
$\chi_{c1}(3872)^+ K^0$, $\chi^+_{c1} \to J/\psi(1S)\pi^+\pi^0$	[f]	$< 6.1 \times 10^{-6}$	CL=90%	–	DESIG=402
$\chi_{c1}(3872) K^0\pi^+$		$(2.4 \pm 1.1) \times 10^{-4}$		1085	DESIG=643
$T_{c\overline{c}1}(4430)^+ K^0$, $T^+_{c\overline{c}1} \to J/\psi\pi^+$		$< 1.5 \times 10^{-5}$	CL=95%	–	DESIG=534
$T_{c\overline{c}1}(4430)^+ K^0$, $T^+_{c\overline{c}1} \to \psi(2S)\pi^+$		$< 4.7 \times 10^{-5}$	CL=95%	–	DESIG=535
$T_{c\overline{c}1}(4430)^0 K^+$, $T^0_{c\overline{c}1} \to J/\psi\eta$		$< 1.27 \times 10^{-6}$	CL=90%	–	DESIG=773
$\psi(4230)^0 K^+$, $\psi^0 \to J/\psi\pi^+\pi^-$		$< 1.56 \times 10^{-5}$	CL=95%	–	DESIG=421
$\psi(4230) K^+$, $\psi \to J/\psi\eta$		$< 3.9 \times 10^{-7}$	CL=90%	–	DESIG=775
$\psi(4360) K^+$, $\psi \to J/\psi\eta$		$< 1.24 \times 10^{-6}$	CL=90%	–	DESIG=776
$\psi(4360) K^+$, $\psi(4360) \to \psi(2S)\pi^+\pi^-$		$(2.8 \pm 0.9) \times 10^{-6}$		–	DESIG=855
$\psi(4390) K^+$, $\psi \to J/\psi\eta$		$< 2.41 \times 10^{-6}$	CL=90%	–	DESIG=777
$\chi_{c0}(3915) K^+$, $\chi_{c0} \to J/\psi\gamma$		$< 1.4 \times 10^{-5}$	CL=90%	–	DESIG=461
$\chi_{c0}(3915) K^+$, $\chi_{c0} \to \chi_{c1}(1P)\pi^0$		$< 3.8 \times 10^{-5}$	CL=90%	–	DESIG=728
$X(3930)^0 K^+$, $X^0 \to J/\psi\gamma$		$< 2.5 \times 10^{-6}$	CL=90%	–	DESIG=462
$J/\psi(1S) K^+$		$(1.019 \pm 0.019) \times 10^{-3}$		1684	DESIG=3
$J/\psi(1S) K^0\pi^+$		$(1.13 \pm 0.11) \times 10^{-3}$		1651	DESIG=612
$J/\psi(1S) K^+\pi^+\pi^-$		$(8.1 \pm 1.3) \times 10^{-4}$	S=2.5	1612	DESIG=19
$J/\psi(1S) K^+ K^- K^+$		$(3.37 \pm 0.29) \times 10^{-5}$		1252	DESIG=634
$\chi_{c0}(3915) K^+$, $\chi_{c0} \to p\overline{p}$		$< 7.1 \times 10^{-8}$	CL=95%	–	DESIG=621
$J/\psi(1S) K^*(892)^+$		$(1.43 \pm 0.08) \times 10^{-3}$		1571	DESIG=142
$J/\psi(1S) K(1270)^+$		$(1.8 \pm 0.5) \times 10^{-3}$		1400	DESIG=271
$J/\psi(1S) K(1400)^+$		$< 5 \times 10^{-4}$	CL=90%	1308	DESIG=272
$J/\psi(1S)\eta K^+$		$(1.24 \pm 0.14) \times 10^{-4}$		1510	DESIG=354
$\chi_{c1-odd}(3872) K^+$, $\chi_{c1-odd} \to J/\psi\eta$		$< 3.8 \times 10^{-6}$	CL=90%	–	DESIG=646
$\psi(4160) K^+$, $\psi \to J/\psi\eta$		$< 8.7 \times 10^{-7}$	CL=90%	–	DESIG=648

$J/\psi(1S)\eta' K^+$	$(3.1 \pm 0.4) \times 10^{-5}$		1273	DESIG=477
$J/\psi(1S)\phi K^+$	$(5.0 \pm 0.4) \times 10^{-5}$		1227	DESIG=268
$J/\psi(1S) K_1(1650)$, $K_1 \to \phi K^+$	$(6 {}^{+10}_{-6}) \times 10^{-6}$		–	DESIG=697
$J/\psi(1S) K^*(1680)^+$, $K^* \to \phi K^+$	$(3.4 {}^{+1.9}_{-2.2}) \times 10^{-6}$		–	DESIG=698
$J/\psi(1S) K_2^*(1980)$, $K_2^* \to \phi K^+$	$(1.5 {}^{+0.9}_{-0.5}) \times 10^{-6}$		–	DESIG=699
$J/\psi(1S) K(1830)^+$, $K(1830)^+ \to \phi K^+$	$(1.3 {}^{+1.3}_{-1.1}) \times 10^{-6}$		–	DESIG=700
$\chi_{c1}(4140) K^+$, $\chi_{c1} \to J/\psi(1S)\phi$	$(10 \pm 4) \times 10^{-6}$		–	DESIG=602
$\chi_{c1}(4274) K^+$, $\chi_{c1} \to J/\psi(1S)\phi$	$(3.6 {}^{+2.2}_{-1.8}) \times 10^{-6}$		–	DESIG=603
$\chi_{c0}(4500) K^+$, $\chi_{c0} \to J/\psi(1S)\phi$	$(3.3 {}^{+2.1}_{-1.7}) \times 10^{-6}$		–	DESIG=695
$\chi_{c0}(4700) K^+$, $\chi_{c0} \to J/\psi(1S)\phi$	$(6 {}^{+5}_{-4}) \times 10^{-6}$		–	DESIG=696
$J/\psi(1S)\omega K^+$	$(3.20 {}^{+0.60}_{-0.32}) \times 10^{-4}$		1388	DESIG=528
$\chi_{c0}(3915) K^+$, $\chi_{c0} \to J/\psi\omega$	$(3.0 {}^{+0.9}_{-0.7}) \times 10^{-5}$		1103	DESIG=555
$J/\psi(1S)\pi^+$	$(4.1 \pm 0.4) \times 10^{-5}$	S=2.5	1728	DESIG=222
$J/\psi(1S)\pi^+\pi^+\pi^+\pi^-\pi^-$	$(1.17 \pm 0.13) \times 10^{-5}$		1635	DESIG=693
$\psi(2S)\pi^+\pi^+\pi^-$	$(1.9 \pm 0.4) \times 10^{-5}$		1304	DESIG=694
$J/\psi(1S)\rho^+$	$(4.1 \pm 0.5) \times 10^{-5}$	S=1.4	1612	DESIG=226
$J/\psi(1S)\pi^+\pi^0$ nonresonant	$< 7.3 \times 10^{-6}$	CL=90%	1717	DESIG=478
$J/\psi(1S) a_1(1260)^+$	$< 1.2 \times 10^{-3}$	CL=90%	1415	DESIG=227
$J/\psi(1S) p\overline{p}\pi^+$	$< 5.0 \times 10^{-7}$	CL=90%	644	DESIG=617
$J/\psi(1S) p\overline{\Lambda}$	$(1.46 \pm 0.12) \times 10^{-5}$		568	DESIG=318
$J/\psi(1S)\overline{\Sigma}^0 p$	$< 1.1 \times 10^{-5}$	CL=90%	–	DESIG=422
$J/\psi(1S) D^+$	$< 1.2 \times 10^{-4}$	CL=90%	871	DESIG=395
$J/\psi(1S)\overline{D}^0\pi^+$	$< 2.5 \times 10^{-5}$	CL=90%	665	DESIG=396
$J/\psi(1S) D_s^+$	$< 2.8 \times 10^{-7}$	CL=90%	727	DESIG=834
$\psi(2S)\pi^+$	$(2.44 \pm 0.30) \times 10^{-5}$		1348	DESIG=524
$\psi(2S) K^+$	$(6.25 \pm 0.21) \times 10^{-4}$		1284	DESIG=20
$\psi(2S) K^*(892)^+$	$(6.7 \pm 1.4) \times 10^{-4}$	S=1.3	1116	DESIG=143
$\psi(2S) K^+\pi^+\pi^-$	$(4.3 \pm 0.5) \times 10^{-4}$		1179	DESIG=144
$\chi_{c0}(4500) K^+$, $\chi_{c0}(4500) \to \psi(2S)\pi^+\pi^-$	$(8.0 \pm 1.7) \times 10^{-5}$		–	DESIG=852
$\chi_{c1}(4685) K^+$, $\chi_{c1}(4685) \to \psi(2S)\pi^+\pi^-$	$(1.25 \pm 0.32) \times 10^{-5}$		–	DESIG=853
$\chi_{c0}(4700) K^+$, $\chi_{c0}(4700) \to \psi(2S)\pi^+\pi^-$	$(7.5 \pm 2.3) \times 10^{-6}$		–	DESIG=854
$\psi(2S) K^*(1410)^+$, $K^*(1410)^+ \to K^+\pi^+\pi^-$	$(8 \pm 4) \times 10^{-6}$		–	DESIG=856
$\psi(2S) K^*(1680)^+$, $K^*(1680)^+ \to K^+\pi^+\pi^-$	$(3.5 \pm 1.7) \times 10^{-5}$		–	DESIG=857
$\psi(2S) K_1(1270)^+$, $K_1(1270)^+ \to K^+\pi^+\pi^-$	$(3.3 \pm 0.8) \times 10^{-5}$		–	DESIG=858
$[\psi(2S) K_1(1270)^+$, $K_1(1270)^+ \to K^+\pi^+\pi^-]_{P-wave}$	$(3.3 \pm 0.7) \times 10^{-5}$		–	DESIG=859
$[\psi(2S) K_1(1270)^+$, $K_1(1270)^+ \to K^+\pi^+\pi^-]_{D-wave}$	$(3.0 \pm 0.7) \times 10^{-5}$		–	DESIG=860

$\psi(2S) K_1(1400)^+$, $K_1(1400)^+ \to K^+\pi^+\pi^-$	$(2.5 \pm 0.6) \times 10^{-5}$		–	DESIG=861
$[\psi(2S) K_1(1400)^+$, $K_1(1400)^+ \to K^+\pi^+\pi^-]_{P-wave}$	$(2.1 \pm 1.9) \times 10^{-6}$		–	DESIG=862
$\psi(2S) K_1(1460)^+$, $K_1(1460)^+ \to K^+\pi^+\pi^-$	$(2.3 \pm 0.5) \times 10^{-5}$		–	DESIG=863
$\psi(2S) K_2^*(1430)^+$, $K_2^*(1430)^+ \to K^+\pi^+\pi^-$	$(1.89 \pm 0.29) \times 10^{-5}$		–	DESIG=864
$T_{c\overline{c}1}(4200)^+ K^*(892)^0 \to \psi(2S) K^+\pi^+\pi^-$	$(1.7 \pm 0.6) \times 10^{-5}$		–	DESIG=865
$[T_{c\overline{c}1}(4200)^+ K^*(892)^0 \to \psi(2S) K^+\pi^+\pi^-]_{P-wave}$	$(2.0 \pm 1.0) \times 10^{-5}$		–	DESIG=866
$[T_{c\overline{c}1}(4200)^+ K^*(892)^0 \to \psi(2S) K^+\pi^+\pi^-]_{D-wave}$	$(1.21 \pm 0.34) \times 10^{-5}$		–	DESIG=867
$T_{c\overline{c}1}(4430)^+ K^*(892)^0 \to \psi(2S) K^+\pi^+\pi^-$	$(3 \pm 10) \times 10^{-6}$		–	DESIG=868
$T_{c\overline{c}1}(4430)^+ [K^+\pi^-]_{S-wave} \to \psi(2S) K^+\pi^+\pi^-$	$(1.5 \pm 0.5) \times 10^{-5}$		–	DESIG=869
$T_{c\overline{cs}1}(4600)^0 \pi^+$, $T_{c\overline{cs}1}(4600)^0 \to \psi(2S) K^+\pi^-$	$(1.9 \pm 1.1) \times 10^{-5}$		–	DESIG=870
$T_{c\overline{cs}1}(4900)^0 \pi^+$, $T_{c\overline{cs}1}(4900)^0 \to \psi(2S) K^+\pi^-$	$(1.1 \pm 0.9) \times 10^{-5}$		–	DESIG=871
$\psi(2S) \phi(1020) K^+$	$(3.4 \pm 0.5) \times 10^{-6}$		418	DESIG=691
$\psi(3770) K^+$	$(4.3 \pm 1.1) \times 10^{-4}$		1218	DESIG=360
$\psi(3770) K+, \psi \to D^0 \overline{D}^0$	$(1.5 \pm 0.5) \times 10^{-4}$	S=1.4	1218	DESIG=361
$\psi(3770) K+, \psi \to D^+ D^-$	$(9.4 \pm 3.5) \times 10^{-5}$		1218	DESIG=362
$\psi(3770) K^+$, $\psi \to p\overline{p}$	$< 2 \times 10^{-7}$	CL=95%	–	DESIG=707
$\psi(3770) K^+$, $\psi \to J/\psi \eta$	$< 4.6 \times 10^{-7}$	CL=90%	–	DESIG=770
$\psi(4040) K^+$	$(1.6 \pm 0.5) \times 10^{-3}$		1002	DESIG=647
$\psi(4040) K^+$, $\psi \to D^+ D^-$	$(1.1 \pm 0.5) \times 10^{-5}$		–	DESIG=760
$\psi(4160) K^+$	$(5.1 \pm 2.7) \times 10^{-4}$		869	DESIG=619
$\psi(4160) K^+$, $\psi \to \overline{D}^0 D^0$	$(8 \pm 5) \times 10^{-5}$		–	DESIG=645
$\psi(4160) K^+$, $\psi \to D^+ D^-$	$(1.5 \pm 0.6) \times 10^{-5}$		–	DESIG=761
$\psi(4415) K^+$, $\psi \to D^+ D^-$	$(2.0 \pm 0.8) \times 10^{-5}$		–	DESIG=762
$\psi(4415) K^+$, $\psi \to J/\psi \eta$	$< 9.6 \times 10^{-7}$	CL=90%	–	DESIG=772
$\chi_{c0} \pi^+$, $\chi_{c0} \to \pi^+\pi^-$	$< 1 \times 10^{-7}$	CL=90%	1531	DESIG=409
$\chi_{c0} \pi^+$, $\chi_{c0} \to \pi^0\pi^0$	$< 5 \times 10^{-7}$	CL=90%	–	DESIG=781
$\chi_{c0} K^+$	$(1.49 {}^{+0.15}_{-0.14}) \times 10^{-4}$		1478	DESIG=266
$\chi_{c0} K^0 \pi^+$	$(1.45 \pm 0.21) \times 10^{-3}$		1439	DESIG=799
$\chi_{c0} K^*(892)^+$	$< 2.1 \times 10^{-4}$	CL=90%	1341	DESIG=435
$\chi_{c1}(1P) \pi^+$	$(2.2 \pm 0.5) \times 10^{-5}$		1468	DESIG=468
$\chi_{c1}(1P) K^+$	$(4.74 \pm 0.22) \times 10^{-4}$		1412	DESIG=171
$\chi_{c1}(1P) K^*(892)^+$	$(3.0 \pm 0.6) \times 10^{-4}$	S=1.1	1265	DESIG=216
$\chi_{c1}(1P) K^0 \pi^+$	$(5.8 \pm 0.4) \times 10^{-4}$		1370	DESIG=611
$\chi_{c1}(1P) K^+ \pi^0$	$(3.29 \pm 0.35) \times 10^{-4}$		1373	DESIG=678
$\chi_{c1}(1P) K^+ \pi^+ \pi^-$	$(3.74 \pm 0.30) \times 10^{-4}$		1319	DESIG=681
$\chi_{c1}(2P) K^+$, $\chi_{c1}(2P) \to \pi^+\pi^- \chi_{c1}(1P)$	$< 1.1 \times 10^{-5}$	CL=90%	–	DESIG=684
$\chi_{c2} \pi^+$, $\chi_{c2} \to \pi^0\pi^0$	$< 7 \times 10^{-7}$	CL=90%	–	DESIG=782
$\chi_{c2} K^+$	$(1.1 \pm 0.4) \times 10^{-5}$		1379	DESIG=436
$\chi_{c2} K^+$, $\chi_{c2} \to p\overline{p}\pi^+\pi^-$	$< 1.9 \times 10^{-7}$		–	DESIG=730
$\chi_{c2} K^*(892)^+$	$< 1.2 \times 10^{-4}$	CL=90%	1228	DESIG=437
$\chi_{c2} K^0 \pi^+$	$(1.24 \pm 0.25) \times 10^{-4}$		1336	DESIG=677
$\chi_{c2} K^+ \pi^0$	$< 6.2 \times 10^{-5}$	CL=90%	1339	DESIG=679
$\chi_{c2} K^+ \pi^+ \pi^-$	$(1.34 \pm 0.19) \times 10^{-4}$		1284	DESIG=682
$\chi_{c2}(3930) K^+$, $\chi_{c2} \to D^+ D^-$	$(1.6 \pm 0.6) \times 10^{-5}$		–	DESIG=759
$\chi_{c2}(3930) \pi^+$, $\chi_{c2} \to \pi^+\pi^-$	$< 1 \times 10^{-7}$	CL=90%	1437	DESIG=542
$h_c(1P) K^+$	$(3.7 \pm 1.2) \times 10^{-5}$		1401	DESIG=467
$h_c(1P) K^+$, $h_c \to p\overline{p}$	$< 6.4 \times 10^{-8}$	CL=95%	–	DESIG=622

K or K^* modes

NODE=S041;CLUMP=D

$K^0 \pi^+$	$(2.39 \pm 0.06) \times 10^{-5}$		2614	DESIG=5
$K^+ \pi^0$	$(1.32 \pm 0.04) \times 10^{-5}$		2615	DESIG=223
$\eta' K^+$	$(7.04 \pm 0.25) \times 10^{-5}$		2528	DESIG=248
$\eta' K^*(892)^+$	$(4.8 \, ^{+1.8}_{-1.6}) \times 10^{-6}$		2472	DESIG=244
$\eta' K_0^*(1430)^+$	$(5.2 \pm 2.1) \times 10^{-6}$		–	DESIG=552
$\eta' K_2^*(1430)^+$	$(2.8 \pm 0.5) \times 10^{-5}$		2346	DESIG=553
ηK^+	$(2.4 \pm 0.4) \times 10^{-6}$	S=1.7	2588	DESIG=245
$\eta K^*(892)^+$	$(1.93 \pm 0.16) \times 10^{-5}$		2534	DESIG=246
$\eta K_0^*(1430)^+$	$(1.8 \pm 0.4) \times 10^{-5}$		–	DESIG=456
$\eta K_2^*(1430)^+$	$(9.1 \pm 3.0) \times 10^{-6}$		2414	DESIG=457
$\eta(1295) K^+,\ \eta \to \eta\pi\pi$	$(2.9 \, ^{+0.8}_{-0.7}) \times 10^{-6}$		2455	DESIG=510
$\eta(1405) K^+,\ \eta \to \eta\pi\pi$	$< 1.3 \times 10^{-6}$	CL=90%	2425	DESIG=511
$\eta(1405) K^+,\ \eta \to K^* K$	$< 1.2 \times 10^{-6}$	CL=90%	2425	DESIG=512
$\eta(1405) K^+,\ \eta \to K^0 K \pi$	$(8.0 \pm 1.1) \times 10^{-6}$		–	DESIG=839
$\eta(1475) K^+,\ \eta \to K^* K$	$(1.42 \pm 0.13) \times 10^{-5}$		2406	DESIG=513
$\eta(1475) K^+,\ \eta \to a_0(980) \pi$	$(2.2 \pm 0.5) \times 10^{-6}$		–	DESIG=836
$\eta(1475) K^+,\ \eta \to K^0 K \pi$	$(1.51 \pm 0.31) \times 10^{-5}$		–	DESIG=837
$\eta(1760) K^+,\ \eta \to K^* \overline{K}$	$(3.4 \pm 0.6) \times 10^{-6}$		–	DESIG=840
$\eta(1760) K^+,\ \eta \to a_0(980) \pi$	$(2.6 \pm 0.5) \times 10^{-6}$		–	DESIG=841
$\eta(1760) K^+,\ \eta \to K^0 K \pi$	$(2.2 \pm 0.4) \times 10^{-5}$		–	DESIG=842
$f_1(1285) K^+$	$< 2.0 \times 10^{-6}$	CL=90%	2458	DESIG=514
$f_1(1285) K^+,\ f_1 \to a_0(980) \pi$	$(2.8 \pm 0.4) \times 10^{-6}$		–	DESIG=843
$f_1(1420) K^+,\ f_1 \to \eta\pi\pi$	$< 2.9 \times 10^{-6}$	CL=90%	2420	DESIG=515
$f_1(1420) K^+,\ f_1 \to K^* K$	$< 4.1 \times 10^{-6}$	CL=90%	2420	DESIG=516
$f_1(1510) K^+,\ f_1 \to K^* \overline{K}$	$(3.8 \pm 1.5) \times 10^{-6}$		–	DESIG=844
$h_1(1415) K^+,\ h_1 \to K^* \overline{K}$	$(2.22 \pm 0.27) \times 10^{-5}$		–	DESIG=845
$h_1(1595) K^+,\ h_1 \to K^* \overline{K}$	$(1.04 \pm 0.16) \times 10^{-5}$		–	DESIG=846
$\eta_2(1645) K^+,\ \eta_2 \to K^* \overline{K}$	$(1.50 \pm 0.28) \times 10^{-6}$		–	DESIG=847
$\phi(1680) K^+,\ \phi \to K^* K$	$< 3.4 \times 10^{-6}$	CL=90%	2344	DESIG=517
$f_0(1500) K^+$	$(3.7 \pm 2.2) \times 10^{-6}$		2393	DESIG=415
ωK^+	$(6.5 \pm 0.4) \times 10^{-6}$		2558	DESIG=251
$\omega K^*(892)^+$	$< 7.4 \times 10^{-6}$	CL=90%	2503	DESIG=252
$\omega (K\pi)_0^{*+}$	$(2.8 \pm 0.4) \times 10^{-5}$		–	DESIG=530
$\omega K_0^*(1430)^+$	$(2.4 \pm 0.5) \times 10^{-5}$		–	DESIG=531
$\omega K_2^*(1430)^+$	$(2.1 \pm 0.4) \times 10^{-5}$		2379	DESIG=532
$a_0(980)^+ K^0,\ a_0^+ \to \eta\pi^+$	$< 3.9 \times 10^{-6}$	CL=90%	–	DESIG=378
$a_0(980)^0 K^+,\ a_0^0 \to \eta\pi^0$	$< 2.5 \times 10^{-6}$	CL=90%	–	DESIG=377
$K^*(892)^0 \pi^+$	$(1.01 \pm 0.08) \times 10^{-5}$		2562	DESIG=6
$K^*(892)^+ \pi^0$	$(6.8 \pm 0.9) \times 10^{-6}$		2563	DESIG=225
$K^+ \pi^- \pi^+$	$(5.10 \pm 0.29) \times 10^{-5}$		2609	DESIG=282
$K^+ \pi^- \pi^+$ nonresonant	$(1.63 \, ^{+0.21}_{-0.15}) \times 10^{-5}$		2609	DESIG=59
$\omega(782) K^+$	$(6 \pm 9) \times 10^{-6}$		2558	DESIG=507
$K^+ f_0(980) \times$ B$(f_0(980) \to \pi^+\pi^-)$	$(9.4 \, ^{+1.0}_{-1.2}) \times 10^{-6}$		2522	DESIG=281
$f_2(1270)^0 K^+$	$(1.07 \pm 0.27) \times 10^{-6}$		–	DESIG=412
$f_0(1370)^0 K^+ \times$ B$(f_0(1370)^0 \to \pi^+\pi^-)$	$< 1.07 \times 10^{-5}$	CL=90%	–	DESIG=413
$\rho(14500) K^+ \times$ B$(\rho(1450)^0 \to \pi^+\pi^-)$	$< 1.17 \times 10^{-5}$	CL=90%	–	DESIG=414
$f_2'(1525) K^+ \times$ B$(f_2'(1525) \to \pi^+\pi^-)$	$< 3.4 \times 10^{-6}$	CL=90%	2394	DESIG=416
$K^+ \rho^0$	$(3.7 \pm 0.5) \times 10^{-6}$		2559	DESIG=7
$K_0^*(1430)^0 \pi^+$	$(3.9 \, ^{+0.6}_{-0.5}) \times 10^{-5}$	S=1.4	2445	DESIG=410
$K_2^*(1430)^0 \pi^+$	$(5.6 \, ^{+2.2}_{-1.5}) \times 10^{-6}$		2445	DESIG=152
$K^*(1410)^0 \pi^+$	$< 4.5 \times 10^{-5}$	CL=90%	2448	DESIG=427
$K^*(1680)^0 \pi^+$	$< 1.2 \times 10^{-5}$	CL=90%	2358	DESIG=411

$K^+\pi^0\pi^0$	$(1.62 \pm 0.19) \times 10^{-5}$		2610	DESIG=584
$f_0(980)K^+ \times$ B$(f_0 \to \pi^0\pi^0)$	$(2.8 \pm 0.8) \times 10^{-6}$		2522	DESIG=585
$K^-\pi^+\pi^+$	$< 4.6 \times 10^{-8}$	CL=90%	2609	DESIG=283
$K^-\pi^+\pi^+$ nonresonant	$< 5.6 \times 10^{-5}$	CL=90%	2609	DESIG=229
$K_1(1270)^0\pi^+$	$< 4.0 \times 10^{-5}$	CL=90%	2488	DESIG=550
$K_1(1400)^0\pi^+$	$< 3.9 \times 10^{-5}$	CL=90%	2451	DESIG=151
$K^0\pi^+\pi^0$	$< 6.6 \times 10^{-5}$	CL=90%	2609	DESIG=305
$K_0^*(1430)^+\pi^0$	$(1.19 {}^{+0.20}_{-0.23}) \times 10^{-5}$		–	DESIG=710
$K^0\rho^+$	$(7.3 {}^{+1.0}_{-1.2}) \times 10^{-6}$		2558	DESIG=224
$K^*(892)^+\pi^+\pi^-$	$(7.5 \pm 1.0) \times 10^{-5}$		2557	DESIG=163
$K^*(892)^+\rho^0$	$(4.6 \pm 1.1) \times 10^{-6}$		2504	DESIG=153
$K^*(892)^+f_0(980)$	$(4.2 \pm 0.7) \times 10^{-6}$		2466	DESIG=455
$a_1^+K^0$	$(3.5 \pm 0.7) \times 10^{-5}$		–	DESIG=487
$b_1^+K^0 \times$ B$(b_1^+ \to \omega\pi^+)$	$(9.6 \pm 1.9) \times 10^{-6}$		–	DESIG=508
$K^*(892)^0\rho^+$	$(9.2 \pm 1.5) \times 10^{-6}$		2504	DESIG=405
$K_1(1400)^+\rho^0$	$< 7.8 \times 10^{-4}$	CL=90%	2388	DESIG=154
$K_2^*(1430)^+\rho^0$	$< 1.5 \times 10^{-3}$	CL=90%	2381	DESIG=155
$b_1^0K^+ \times$ B$(b_1^0 \to \omega\pi^0)$	$(9.1 \pm 2.0) \times 10^{-6}$		–	DESIG=491
$b_1^+K^{*0} \times$ B$(b_1^+ \to \omega\pi^+)$	$< 5.9 \times 10^{-6}$	CL=90%	–	DESIG=543
$b_1^0K^{*+} \times$ B$(b_1^0 \to \omega\pi^0)$	$< 6.7 \times 10^{-6}$	CL=90%	–	DESIG=544
$K^+\overline{K}^0$	$(1.32 \pm 0.17) \times 10^{-6}$	S=1.2	2593	DESIG=241
$\overline{K}^0K^+\pi^0$	$< 2.4 \times 10^{-5}$	CL=90%	2578	DESIG=306
$K^+K_S^0K_S^0$	$(1.05 \pm 0.04) \times 10^{-5}$		2521	DESIG=323
$f_0(980)K^+$, $f_0 \to K_S^0K_S^0$	$(1.47 \pm 0.33) \times 10^{-5}$		–	DESIG=597
$f_0(1710)K^+$, $f_0 \to K_S^0K_S^0$	$(4.8 {}^{+4.0}_{-2.6}) \times 10^{-7}$		–	DESIG=598
$K^+K_S^0K_S^0$ nonresonant	$(2.0 \pm 0.4) \times 10^{-5}$		2521	DESIG=599
$K_S^0K_S^0\pi^+$	$< 5.1 \times 10^{-7}$	CL=90%	2577	DESIG=324
$K^+K^-\pi^+$	$(5.2 \pm 0.4) \times 10^{-6}$		2578	DESIG=284
$K^+K^-\pi^+$ nonresonant	$(1.68 \pm 0.26) \times 10^{-6}$		2578	DESIG=230
$K^+\overline{K}^*(892)^0$	$(5.9 \pm 0.8) \times 10^{-7}$		2540	DESIG=263
$K^+\overline{K}_0^*(1430)^0$	$(3.8 \pm 1.3) \times 10^{-7}$		2421	DESIG=501
$\pi^+(K^+K^-)_{S-wave}$	$(8.5 \pm 0.9) \times 10^{-7}$		2578	DESIG=737
$\pi^+K^+K^-$, $m_{K^+K^-} < 1.1$ GeV	$(5.4 \pm 0.5) \times 10^{-6}$		–	DESIG=784
$K^+K^+\pi^-$	$< 1.1 \times 10^{-8}$	CL=90%	2578	DESIG=285
$K^+K^+\pi^-$ nonresonant	$< 8.79 \times 10^{-5}$	CL=90%	2578	DESIG=262
$f_2'(1525)K^+$	$(1.8 \pm 0.5) \times 10^{-6}$	S=1.1	2394	DESIG=430
$K^{*+}\pi^+K^-$	$< 1.18 \times 10^{-5}$	CL=90%	2524	DESIG=453
$K^*(892)^+K^*(892)^0$	$(9.1 \pm 2.9) \times 10^{-7}$		2484	DESIG=277
$K^{*+}K^+\pi^-$	$< 6.1 \times 10^{-6}$	CL=90%	2524	DESIG=454
$K^+K^-K^+$	$(3.40 \pm 0.14) \times 10^{-5}$	S=1.4	2523	DESIG=160
$K^+\phi$	$(8.8 {}^{+0.7}_{-0.6}) \times 10^{-6}$	S=1.1	2516	DESIG=8
$f_0(980)K^+ \times$ B$(f_0(980) \to K^+K^-)$	$(9.4 \pm 3.2) \times 10^{-6}$		2522	DESIG=428
$a_2(1320)K^+ \times$ B$(a_2(1320) \to K^+K^-)$	$< 1.1 \times 10^{-6}$	CL=90%	2449	DESIG=429
$X_0(1550)K^+ \times$ B$(X_0(1550) \to K^+K^-)$	$(4.3 \pm 0.7) \times 10^{-6}$		–	DESIG=450
$\phi(1680)K^+ \times$ B$(\phi(1680) \to K^+K^-)$	$< 8 \times 10^{-7}$	CL=90%	2344	DESIG=431
$f_0(1710)K^+ \times$ B$(f_0(1710) \to K^+K^-)$	$(1.1 \pm 0.6) \times 10^{-6}$		2330	DESIG=449
$K^+K^-K^+$ nonresonant	$(2.38 {}^{+0.28}_{-0.50}) \times 10^{-5}$		2523	DESIG=231
$K^*(892)^+K^+K^-$	$(3.6 \pm 0.5) \times 10^{-5}$		2466	DESIG=164

$K^*(892)^+ \phi$	$(10.0 \pm 2.0) \times 10^{-6}$	S=1.7	2460	DESIG=156
$K^0 K^+ K^- \pi^+$	$(3.40 \pm 0.33) \times 10^{-4}$		2494	DESIG=797
$J/\psi K^+$, $J/\psi \to K^0 K^- \pi^+$	$(5.4 \pm 1.2) \times 10^{-6}$		–	DESIG=800
$\chi_{c1} K^+$, $\chi_{c1} \to K^0 K^- \pi^+$	$(2.25 \pm 0.25) \times 10^{-6}$		–	DESIG=801
$\eta_c K^+$, $\eta_c \to K^0 K^- \pi^+$	$(2.83 \pm 0.30) \times 10^{-5}$		–	DESIG=803
$\eta_c(2S) K^+$, $\eta_c(2S) \to K^0 K^- \pi^+$	$(3.3 \pm 0.4) \times 10^{-6}$		–	DESIG=802
$K^0 K^+ K^+ \pi^-$	$(2.80 \pm 0.30) \times 10^{-4}$		2494	DESIG=798
$J/\psi K^+$, $J/\psi \to K^0 K^+ \pi^-$	$(5.4 \pm 1.3) \times 10^{-6}$		–	DESIG=804
$\chi_{c1} K^+$, $\chi_{c1} \to K^0 K^+ \pi^-$	$(2.06 \pm 0.32) \times 10^{-6}$		–	DESIG=805
$\eta_c K^+$, $\eta_c \to K^0 K^+ \pi^-$	$(3.00 \pm 0.34) \times 10^{-5}$		–	DESIG=806
$\eta_c(2S) K^+$, $\eta_c(2S) \to K^0 K^+ \pi^-$	$(3.1 \pm 0.6) \times 10^{-6}$		–	DESIG=807
$\phi (K\pi)^{*+}_0$	$(8.3 \pm 1.6) \times 10^{-6}$		–	DESIG=518
$\phi K_1(1270)^+$	$(6.1 \pm 1.9) \times 10^{-6}$		2380	DESIG=519
$\phi K_1(1400)^+$	$< 3.2 \times 10^{-6}$	CL=90%	2339	DESIG=157
$\phi K^*(1410)^+$	$< 4.3 \times 10^{-6}$	CL=90%	–	DESIG=520
$\phi K^*_0(1430)^+$	$(7.0 \pm 1.6) \times 10^{-6}$		–	DESIG=521
$\phi K^*_2(1430)^+$	$(8.4 \pm 2.1) \times 10^{-6}$		2332	DESIG=158
$\phi K^*_2(1770)^+$	$< 1.50 \times 10^{-5}$	CL=90%	–	DESIG=522
$\phi K^*_2(1820)^+$	$< 1.63 \times 10^{-5}$	CL=90%	–	DESIG=523
$a_1^+ K^{*0}$	$< 3.6 \times 10^{-6}$	CL=90%	–	DESIG=554
$K^+ \phi \phi$	$(4.2 \pm 0.8) \times 10^{-6}$	S=2.2	2306	DESIG=325
$\eta' \eta' K^+$	$< 2.5 \times 10^{-5}$	CL=90%	2339	DESIG=452
$\omega \phi K^+$	$< 1.9 \times 10^{-6}$	CL=90%	2374	DESIG=540
$X(1812) K^+ \times$ B$(X \to \omega \phi)$	$< 3.2 \times 10^{-7}$	CL=90%	–	DESIG=541
$K^*(892)^+ \gamma$	$(3.95 \pm 0.13) \times 10^{-5}$	S=1.3	2564	DESIG=9
$K_1(1270)^+ \gamma$	$(4.4 {}^{+0.7}_{-0.6}) \times 10^{-5}$		2490	DESIG=53
$\eta K^+ \gamma$	$(7.9 \pm 0.9) \times 10^{-6}$		2588	DESIG=403
$\eta' K^+ \gamma$	$(2.9 {}^{+1.0}_{-0.9}) \times 10^{-6}$		2528	DESIG=451
$\phi K^+ \gamma$	$(2.7 \pm 0.4) \times 10^{-6}$	S=1.2	2516	DESIG=347
$K^+ \pi^- \pi^+ \gamma$	$(2.58 \pm 0.15) \times 10^{-5}$	S=1.3	2609	DESIG=307
$K^*(892)^0 \pi^+ \gamma$	$(2.33 \pm 0.12) \times 10^{-5}$		2562	DESIG=308
$K^+ \rho^0 \gamma$	$(8.2 \pm 0.9) \times 10^{-6}$		2559	DESIG=309
$(K^+ \pi^-)_{\mathrm{NR}} \pi^+ \gamma$	$(9.9 {}^{+1.7}_{-2.0}) \times 10^{-6}$		2609	DESIG=310
$K^0 \pi^+ \pi^0 \gamma$	$(4.6 \pm 0.5) \times 10^{-5}$		2609	DESIG=474
$K_1(1400)^+ \gamma$	$(10 {}^{+5}_{-4}) \times 10^{-6}$		2453	DESIG=54
$K^*(1410)^+ \gamma$	$(2.7 {}^{+0.8}_{-0.6}) \times 10^{-5}$		–	DESIG=686
$K^*_0(1430)^0 \pi^+ \gamma$	$(1.32 {}^{+0.26}_{-0.32}) \times 10^{-6}$		2445	DESIG=685
$K^*_2(1430)^+ \gamma$	$(1.4 \pm 0.4) \times 10^{-5}$		2447	DESIG=55
$K^*(1680)^+ \gamma$	$(6.7 {}^{+1.7}_{-1.4}) \times 10^{-5}$		2360	DESIG=56
$K^*_3(1780)^+ \gamma$	$< 3.9 \times 10^{-5}$	CL=90%	2340	DESIG=57
$K^*_4(2045)^+ \gamma$	$< 9.9 \times 10^{-3}$	CL=90%	2242	DESIG=58
Light unflavored meson modes				NODE=S041;CLUMP=E
$\rho^+ \gamma$	$(1.16 \pm 0.17) \times 10^{-6}$		2583	DESIG=267
$\pi^+ \pi^0$	$(5.31 \pm 0.26) \times 10^{-6}$		2636	DESIG=16
$\pi^+ \pi^+ \pi^-$	$(1.52 \pm 0.14) \times 10^{-5}$		2630	DESIG=63
$\rho^0 \pi^+$	$(8.3 \pm 1.2) \times 10^{-6}$		2581	DESIG=4
$\pi^+ f_0(980)$, $f_0 \to \pi^+ \pi^-$	$< 1.5 \times 10^{-6}$	CL=90%	2545	DESIG=61
$\pi^+ f_2(1270)$	$(2.2 {}^{+0.7}_{-0.4}) \times 10^{-6}$		2484	DESIG=62
$\rho(1450)^0 \pi^+$, $\rho^0 \to \pi^+ \pi^-$	$(1.4 {}^{+0.6}_{-0.9}) \times 10^{-6}$		2434	DESIG=406
$\rho(1450)^0 \pi^+$, $\rho^0 \to K^+ K^-$	$(1.60 \pm 0.14) \times 10^{-6}$		–	DESIG=735
$f_0(1370) \pi^+$, $f_0 \to \pi^+ \pi^-$	$< 4.0 \times 10^{-6}$	CL=90%	2460	DESIG=407
$f_0(1370) \pi^+$, $f_0 \to \pi^0 \pi^0$	$< 1.1 \times 10^{-6}$	CL=90%	–	DESIG=780

$f_0(500)\pi^+$, $f_0 \to \pi^+\pi^-$		$< 4.1 \times 10^{-6}$	CL=90%	–	DESIG=408
$\pi^+\pi^-\pi^+$ nonresonant		$(5.3 {}^{+1.5}_{-1.1}) \times 10^{-6}$		2630	DESIG=228
$\pi^+\pi^0\pi^0$		$(1.90 \pm 0.21) \times 10^{-5}$		2631	DESIG=73
$\rho^+\pi^0$		$(1.06 {}^{+0.12}_{-0.13}) \times 10^{-5}$		2581	DESIG=74
$\rho(1450)^+\pi^0$, $\rho^+ \to \pi^+\pi^0$		$(1.2 \pm 0.6) \times 10^{-6}$		–	DESIG=779
$\pi^+\pi^0\pi^0$ nonresonant		$< 6 \times 10^{-7}$	CL=90%	2631	DESIG=785
$X pi+, X \to \pi^0\pi^0$		$(6.9 \pm 1.1) \times 10^{-6}$		–	DESIG=786
$\pi^+\pi^-\pi^+\pi^0$		$< 4.0 \times 10^{-3}$	CL=90%	2622	DESIG=75
$\rho^+\rho^0$		$(2.40 \pm 0.19) \times 10^{-5}$		2523	DESIG=76
$\rho^+ f_0(980)$, $f_0 \to \pi^+\pi^-$		$< 2.0 \times 10^{-6}$	CL=90%	2486	DESIG=458
$a_1(1260)^+\pi^0$		$(2.6 \pm 0.7) \times 10^{-5}$		2494	DESIG=77
$a_1(1260)^0\pi^+$		$(2.0 \pm 0.6) \times 10^{-5}$		2494	DESIG=78
$\omega\pi^+$		$(6.9 \pm 0.5) \times 10^{-6}$		2580	DESIG=79
$\omega\rho^+$		$(1.59 \pm 0.21) \times 10^{-5}$		2522	DESIG=253
$\eta\pi^+$		$(4.02 \pm 0.27) \times 10^{-6}$		2609	DESIG=80
$\eta\rho^+$		$(7.0 \pm 2.9) \times 10^{-6}$	S=2.8	2553	DESIG=247
$\eta'\pi^+$		$(2.7 \pm 0.9) \times 10^{-6}$	S=1.9	2551	DESIG=242
$\eta'\rho^+$		$(9.7 \pm 2.2) \times 10^{-6}$		2492	DESIG=243
$\phi\pi^+$		$(3.2 \pm 1.5) \times 10^{-8}$		2539	DESIG=254
$\phi\rho^+$		$< 3.0 \times 10^{-6}$	CL=90%	2480	DESIG=255
$a_0(980)^0\pi^+$, $a_0^0 \to \eta\pi^0$		$< 5.8 \times 10^{-6}$	CL=90%	–	DESIG=376
$a_0(980)^+\pi^0$, $a_0^+ \to \eta\pi^+$		$< 1.4 \times 10^{-6}$	CL=90%	–	DESIG=488
$\pi^+\pi^+\pi^+\pi^-\pi^-$		$< 8.6 \times 10^{-4}$	CL=90%	2608	DESIG=81
$\rho^0 a_1(1260)^+$		$< 6.2 \times 10^{-4}$	CL=90%	2433	DESIG=17
$\rho^0 a_2(1320)^+$		$< 7.2 \times 10^{-4}$	CL=90%	2410	DESIG=18
$b_1^0\pi^+$, $b_1^0 \to \omega\pi^0$		$(6.7 \pm 2.0) \times 10^{-6}$		–	DESIG=492
$b_1^+\pi^0$, $b_1^+ \to \omega\pi^+$		$< 3.3 \times 10^{-6}$	CL=90%	–	DESIG=509
$\pi^+\pi^+\pi^+\pi^-\pi^-\pi^0$		$< 6.3 \times 10^{-3}$	CL=90%	2592	DESIG=83
$b_1^+\rho^0$, $b_1^+ \to \omega\pi^+$		$< 5.2 \times 10^{-6}$	CL=90%	–	DESIG=545
$a_1(1260)^+ a_1(1260)^0$		< 1.3 %	CL=90%	2336	DESIG=84
$b_1^0\rho^+$, $b_1^0 \to \omega\pi^0$		$< 3.3 \times 10^{-6}$	CL=90%	–	DESIG=546

Charged particle ($h^{\pm}$) modes

NODE=S041;CLUMP=I

$h^{\pm} = K^{\pm}$ or $\pi^{\pm}$ NODE=S041

$h^+\pi^0$		$(1.6 {}^{+0.7}_{-0.6}) \times 10^{-5}$		2636	DESIG=249
ωh^+		$(1.38 {}^{+0.27}_{-0.24}) \times 10^{-5}$		2580	DESIG=250
$h^+ X^0$ (Familon)		$< 4.9 \times 10^{-5}$	CL=90%	–	DESIG=278
$K^+ X^0$, $X^0 \to \mu^+\mu^-$		$< 1 \times 10^{-7}$	CL=95%	–	DESIG=708

Baryon modes

NODE=S041;CLUMP=F

$p\overline{p}\pi^+$		$(1.62 \pm 0.20) \times 10^{-6}$		2439	DESIG=21
$p\overline{p}\pi^+$ nonresonant		$< 5.3 \times 10^{-5}$	CL=90%	2439	DESIG=232
$p\overline{p}\pi^+\pi^0$		$(4.6 \pm 1.3) \times 10^{-6}$		2407	DESIG=744
$p\overline{p}K^+$		$(5.9 \pm 0.5) \times 10^{-6}$	S=1.5	2348	DESIG=313
$\Theta(1710)^{++}\overline{p}$, $\Theta^{++} \to pK^+$	[g]	$< 9.1 \times 10^{-8}$	CL=90%	–	DESIG=400
$f_J(2220)K^+$, $f_J \to p\overline{p}$	[g]	$< 4.1 \times 10^{-7}$	CL=90%	2135	DESIG=401
$p\overline{n}\pi^0$		$< 6.3 \times 10^{-6}$	CL=90%	2440	DESIG=808
$p\overline{\Lambda}(1520)$		$(3.1 \pm 0.6) \times 10^{-7}$		2322	DESIG=397
$p\overline{p}K^+$ nonresonant		$< 8.9 \times 10^{-5}$	CL=90%	2348	DESIG=233
$p\overline{p}K^*(892)^+$		$(3.6 {}^{+0.8}_{-0.7}) \times 10^{-6}$		2215	DESIG=353
$f_J(2220)K^{*+}$, $f_J \to p\overline{p}$		$< 7.7 \times 10^{-7}$	CL=90%	2059	DESIG=497
$p\overline{\Lambda}$		$(2.4 {}^{+1.0}_{-0.9}) \times 10^{-7}$		2430	DESIG=23
$p\overline{\Lambda}\gamma$		$(2.4 {}^{+0.5}_{-0.4}) \times 10^{-6}$		2430	DESIG=45
$p\overline{\Lambda}\pi^0$		$(3.0 {}^{+0.7}_{-0.6}) \times 10^{-6}$		2402	DESIG=493

$p\overline{\Sigma}(1385)^0$		$< 4.7 \times 10^{-7}$	CL=90%	2362	DESIG=494
$\Delta^+\overline{\Lambda}$		$< 8.2 \times 10^{-7}$	CL=90%	–	DESIG=495
$p\overline{\Sigma}\gamma$		$< 4.6 \times 10^{-6}$	CL=90%	2413	DESIG=46
$p\overline{\Lambda}\pi^+\pi^-$		$(1.13 \pm 0.13) \times 10^{-5}$		2368	DESIG=24
$p\overline{\Lambda}\pi^+\pi^-$ nonresonant		$(5.9 \pm 1.1) \times 10^{-6}$		2368	DESIG=723
$p\overline{\Lambda}\rho^0,\ \rho^0 \to \pi^+\pi^-$		$(4.8 \pm 0.9) \times 10^{-6}$		2214	DESIG=548
$p\overline{\Lambda}f_2(1270),\ f_2 \to \pi^+\pi^-$		$(2.0 \pm 0.8) \times 10^{-6}$		2026	DESIG=549
$p\overline{\Lambda}K^+K^-$		$(4.1 \pm 0.7) \times 10^{-6}$		2132	DESIG=716
$p\overline{\Lambda}\phi$		$(8.0 \pm 2.2) \times 10^{-7}$		2119	DESIG=718
$\overline{p}\Lambda K^+K^-$		$(3.7 \pm 0.6) \times 10^{-6}$		2132	DESIG=717
$\Lambda\overline{\Lambda}\pi^+$		$< 9.4 \times 10^{-7}$	CL=90%	2358	DESIG=356
$\Lambda\overline{\Lambda}K^+$		$(3.4 \pm 0.6) \times 10^{-6}$		2251	DESIG=357
$\Lambda\overline{\Lambda}K^{*+}$		$(2.2\ {}^{+1.2}_{-0.9}) \times 10^{-6}$		2098	DESIG=539
$\Lambda(1520)\overline{\Lambda}K^+$		$(2.2 \pm 0.7) \times 10^{-6}$		2126	DESIG=719
$\Lambda\overline{\Lambda}(1520)K^+$		$< 2.08 \times 10^{-6}$		2126	DESIG=720
$\overline{\Delta}^0 p$		$< 1.38 \times 10^{-6}$	CL=90%	2403	DESIG=64
$\Delta^{++}\overline{p}$		$< 1.4 \times 10^{-7}$	CL=90%	2403	DESIG=65
$\overline{\Lambda}p\overline{p}p$		$(2.1 \pm 0.5) \times 10^{-7}$		1669	DESIG=872
$\overline{\Lambda}p\eta_c$		$< 1.9 \times 10^{-5}$	CL=90%	777	DESIG=873
$D^+p\overline{p}$		$< 1.5 \times 10^{-5}$	CL=90%	1860	DESIG=303
$D^*(2010)^+p\overline{p}$		$< 1.5 \times 10^{-5}$	CL=90%	1786	DESIG=304
$\overline{D}^0 p\overline{p}\pi^+$		$(3.72 \pm 0.27) \times 10^{-4}$		1789	DESIG=607
$\overline{D}^{*0} p\overline{p}\pi^+$		$(3.73 \pm 0.32) \times 10^{-4}$		1709	DESIG=608
$D^- p\overline{p}\pi^+\pi^-$		$(1.66 \pm 0.30) \times 10^{-4}$		1705	DESIG=609
$D^{*-} p\overline{p}\pi^+\pi^-$		$(1.86 \pm 0.25) \times 10^{-4}$		1621	DESIG=610
$p\overline{\Lambda}^0\overline{D}^0$		$(1.43 \pm 0.32) \times 10^{-5}$		–	DESIG=577
$p\overline{\Lambda}^0\overline{D}^*(2007)^0$		$< 5 \times 10^{-5}$	CL=90%	–	DESIG=578
$\overline{\Lambda}_c^- p\pi^+$		$(2.2 \pm 0.4) \times 10^{-4}$	S=2.7	1980	DESIG=239
$\overline{\Lambda}_c^- pK^+$		$(8.8 \pm 1.6) \times 10^{-6}$		1849	DESIG=817
$\overline{\Lambda}_c^- \Delta(1232)^{++}$		$< 1.9 \times 10^{-5}$	CL=90%	1928	DESIG=469
$\overline{\Lambda}_c^- \Delta_X(1600)^{++}$		$(4.6 \pm 0.9) \times 10^{-5}$		–	DESIG=470
$\overline{\Lambda}_c^- \Delta_X(2420)^{++}$		$(3.7 \pm 0.8) \times 10^{-5}$		–	DESIG=471
$(\overline{\Lambda}_c^- p)_s\pi^+$	[h]	$(3.1\ {}^{+0.7}_{-0.6}) \times 10^{-5}$		–	DESIG=472
$\overline{\Sigma}_c(2520)^0 p$		$< 3 \times 10^{-6}$	CL=90%	1904	DESIG=312
$\overline{\Sigma}_c(2800)^0 p$		$(2.6 \pm 0.9) \times 10^{-5}$		–	DESIG=529
$\overline{\Lambda}_c^- p\pi^+\pi^0$		$(1.8 \pm 0.6) \times 10^{-3}$		1935	DESIG=236
$\overline{\Lambda}_c^- p\pi^+\pi^+\pi^-$		$(2.2 \pm 0.7) \times 10^{-3}$		1880	DESIG=237
$\overline{\Lambda}_c^- p\pi^+\pi^+\pi^-\pi^0$		< 1.34 %	CL=90%	1823	DESIG=238
$\Lambda_c^+\Lambda_c^- K^+$		$(4.9 \pm 0.7) \times 10^{-4}$		739	DESIG=463
$\Xi_c(2930)\Lambda_c^+,\ \Xi_c \to K^+\Lambda_c^-$		$(1.7 \pm 0.5) \times 10^{-4}$		–	DESIG=715
$\overline{\Sigma}_c(2455)^0 p$		$(2.9 \pm 0.6) \times 10^{-5}$		1938	DESIG=311
$\overline{\Sigma}_c(2455)^0 p\pi^0$		$(3.5 \pm 1.1) \times 10^{-4}$		1896	DESIG=67
$\overline{\Sigma}_c(2455)^0 p\pi^-\pi^+$		$(3.5 \pm 1.0) \times 10^{-4}$		1845	DESIG=298
$\overline{\Sigma}_c(2455)^{--} p\pi^+\pi^+$		$(2.33 \pm 0.17) \times 10^{-4}$		1845	DESIG=299
$\Sigma_c(2455)^{++}\overline{\Xi}_c^-$		$(5.7\ {}^{+2.7}_{-1.9}) \times 10^{-4}$		957	DESIG=874
$\overline{\Lambda}_c(2593)^- / \overline{\Lambda}_c(2625)^- p\pi^+$		$< 1.9 \times 10^{-4}$	CL=90%	–	DESIG=66
$\overline{\Xi}_c^0\Lambda_c^+$		$(9.5 \pm 2.3) \times 10^{-4}$		1144	DESIG=721
$\overline{\Xi}_c^0\Lambda_c^+$		$< 2.6 \times 10^{-5}$	CL=95%	1144	DESIG=815
$\overline{\Xi}_c^0\Lambda_c^+,\ \overline{\Xi}_c^0 \to \overline{\Xi}^+\pi^-$		$(1.76 \pm 0.29) \times 10^{-5}$		1144	DESIG=465
$\overline{\Xi}_c^0\Lambda_c^+,\ \overline{\Xi}_c^0 \to \Lambda K^+\pi^-$		$(1.14 \pm 0.26) \times 10^{-5}$		1144	DESIG=466
$\overline{\Xi}_c^0\Lambda_c^+,\ \overline{\Xi}_c^0 \to pK^-K^-\pi^+$		$(5.5 \pm 1.9) \times 10^{-6}$		–	DESIG=722
$\Lambda_c^+\overline{\Xi}_c^{\prime 0}$		$< 6.5 \times 10^{-4}$	CL=90%	1023	DESIG=732
$\Lambda_c^+\overline{\Xi}_c(2645)^0$		$< 7.9 \times 10^{-4}$	CL=90%	–	DESIG=733
$\Lambda_c^+\overline{\Xi}_c(2790)^0$		$(1.1 \pm 0.4) \times 10^{-3}$		–	DESIG=734

Lepton Family number (*LF*) or Lepton number (*L*) or Baryon number (*B*) violating modes, or/and $\Delta B = 1$ weak neutral current (*B1*) modes

NODE=S041;CLUMP=G

$\pi^+ \ell^+ \ell^-$	*B1*	[a]	$<$ 4.9	$\times 10^{-8}$	CL=90%	2638	DESIG=475
$\pi^+ e^+ e^-$	*B1*		$<$ 5.4	$\times 10^{-8}$	CL=90%	2638	DESIG=85
$\pi^+ \mu^+ \mu^-$	*B1*		(1.78 $\pm$ 0.22)	$\times 10^{-8}$		2634	DESIG=88
$\rho(770)^+ e^+ e^-$	*B1*		$<$ 4.67	$\times 10^{-7}$	CL=90%	–	DESIG=818
$\rho(770)^+ \mu^+ \mu^-$	*B1*		$<$ 3.81	$\times 10^{-7}$	CL=90%	–	DESIG=819
$\rho(770)^+ \ell^+ \ell^-$	*B1*		$<$ 1.89	$\times 10^{-7}$	CL=90%	–	DESIG=820
$\pi^+ \nu \overline{\nu}$	*B1*		$<$ 1.4	$\times 10^{-5}$	CL=90%	2638	DESIG=404
$K^+ \ell^+ \ell^-$	*B1*	[a]	(4.7 $\pm$ 0.5)	$\times 10^{-7}$	S=2.3	2617	DESIG=345
$K^+ e^+ e^-$	*B1*		(5.6 $\pm$ 0.6)	$\times 10^{-7}$		2617	DESIG=11
$K^+ \mu^+ \mu^-$	*B1*		(4.53 $\pm$ 0.35)	$\times 10^{-7}$	S=1.8	2612	DESIG=10
$K^+ \mu^+ \mu^-$ nonresonant	*B1*		(4.37 $\pm$ 0.27)	$\times 10^{-7}$		2612	DESIG=704
$K^+ \tau^+ \tau^-$	*B1*		$<$ 2.25	$\times 10^{-3}$	CL=90%	1687	DESIG=690
$K^+ \overline{\nu} \nu$	*B1*		(2.3 $\pm$ 0.7)	$\times 10^{-5}$		2617	DESIG=273
$\rho^+ \nu \overline{\nu}$	*B1*		$<$ 3.0	$\times 10^{-5}$	CL=90%	2583	DESIG=489
$K^*(892)^+ \ell^+ \ell^-$	*B1*	[a]	(1.01 $\pm$ 0.11)	$\times 10^{-6}$	S=1.1	2564	DESIG=346
$K^*(892)^+ e^+ e^-$	*B1*		(1.55 $^{+0.40}_{-0.31}$)	$\times 10^{-6}$		2564	DESIG=161
$K^*(892)^+ \mu^+ \mu^-$	*B1*		(9.6 $\pm$ 1.0)	$\times 10^{-7}$		2560	DESIG=162
$K^*(892)^+ \nu \overline{\nu}$	*B1*		$<$ 4.0	$\times 10^{-5}$	CL=90%	2564	DESIG=490
$K^+ \pi^+ \pi^- \mu^+ \mu^-$	*B1*		(4.3 $\pm$ 0.4)	$\times 10^{-7}$		2593	DESIG=632
$D_s^+ \mu^+ \mu^-$	*B1*		$<$ 2.4	$\times 10^{-8}$	CL=90%	2267	DESIG=816
$\phi K^+ \mu^+ \mu^-$	*B1*		(7.9 $^{+2.1}_{-1.7}$)	$\times 10^{-8}$		2490	DESIG=633
$\overline{\Lambda} p \nu \overline{\nu}$	*B1*		$<$ 3.0	$\times 10^{-5}$	CL=90%	2430	DESIG=736
$\pi^+ e^+ \mu^-$	*LF*		$<$ 6.4	$\times 10^{-3}$	CL=90%	2637	DESIG=86
$\pi^+ e^- \mu^+$	*LF*		$<$ 6.4	$\times 10^{-3}$	CL=90%	2637	DESIG=87
$\pi^+ e^\pm \mu^\mp$	*LF*		$<$ 1.7	$\times 10^{-7}$	CL=90%	2637	DESIG=476
$\pi^+ e^+ \tau^-$	*LF*		$<$ 7.4	$\times 10^{-5}$	CL=90%	2338	DESIG=586
$\pi^+ e^- \tau^+$	*LF*		$<$ 2.0	$\times 10^{-5}$	CL=90%	2338	DESIG=587
$\pi^+ e^\pm \tau^\mp$	*LF*		$<$ 7.5	$\times 10^{-5}$	CL=90%	2338	DESIG=588
$\pi^+ \mu^+ \tau^-$	*LF*		$<$ 6.2	$\times 10^{-5}$	CL=90%	2334	DESIG=589
$\pi^+ \mu^- \tau^+$	*LF*		$<$ 4.5	$\times 10^{-5}$	CL=90%	2334	DESIG=590
$\pi^+ \mu^\pm \tau^\mp$	*LF*		$<$ 7.2	$\times 10^{-5}$	CL=90%	2334	DESIG=591
$K^+ e^+ \mu^-$	*LF*		$<$ 7.0	$\times 10^{-9}$	CL=90%	2616	DESIG=89
$K^+ e^- \mu^+$	*LF*		$<$ 6.4	$\times 10^{-9}$	CL=90%	2616	DESIG=90
$K^+ e^\pm \mu^\mp$	*LF*		$<$ 9.1	$\times 10^{-8}$	CL=90%	2616	DESIG=446
$K^+ e^+ \tau^-$	*LF*		$<$ 1.53	$\times 10^{-5}$	CL=90%	2312	DESIG=592
$K^+ e^- \tau^+$	*LF*		$<$ 1.5	$\times 10^{-5}$	CL=90%	2312	DESIG=593
$K^+ e^\pm \tau^\mp$	*LF*		$<$ 3.0	$\times 10^{-5}$	CL=90%	2312	DESIG=594
$K^+ \mu^+ \tau^-$	*LF*		$<$ 2.45	$\times 10^{-5}$	CL=90%	2298	DESIG=595
$K^+ \mu^- \tau^+$	*LF*		$<$ 5.9	$\times 10^{-6}$	CL=90%	2298	DESIG=596
$K^+ \mu^\pm \tau^\mp$	*LF*		$<$ 4.8	$\times 10^{-5}$	CL=90%	2298	DESIG=486
$K^*(892)^+ e^+ \mu^-$	*LF*		$<$ 1.3	$\times 10^{-6}$	CL=90%	2563	DESIG=447
$K^*(892)^+ e^- \mu^+$	*LF*		$<$ 9.9	$\times 10^{-7}$	CL=90%	2563	DESIG=448
$K^*(892)^+ e^\pm \mu^\mp$	*LF*		$<$ 1.4	$\times 10^{-6}$	CL=90%	2563	DESIG=296
$\pi^- e^+ e^+$	*L*		$<$ 2.3	$\times 10^{-8}$	CL=90%	2638	DESIG=91
$\pi^- \mu^+ \mu^+$	*L*		$<$ 4.0	$\times 10^{-9}$	CL=95%	2634	DESIG=93
$\pi^- e^+ \mu^+$	*L*		$<$ 1.5	$\times 10^{-7}$	CL=90%	2637	DESIG=92
$\rho^- e^+ e^+$	*L*		$<$ 1.7	$\times 10^{-7}$	CL=90%	2583	DESIG=291
$\rho^- \mu^+ \mu^+$	*L*		$<$ 4.2	$\times 10^{-7}$	CL=90%	2578	DESIG=295
$\rho^- e^+ \mu^+$	*L*		$<$ 4.7	$\times 10^{-7}$	CL=90%	2582	DESIG=294
$K^- e^+ e^+$	*L*		$<$ 3.0	$\times 10^{-8}$	CL=90%	2617	DESIG=94
$K^- \mu^+ \mu^+$	*L*		$<$ 4.1	$\times 10^{-8}$	CL=90%	2612	DESIG=96
$K^- e^+ \mu^+$	*L*		$<$ 1.6	$\times 10^{-7}$	CL=90%	2616	DESIG=95
$K^*(892)^- e^+ e^+$	*L*		$<$ 4.0	$\times 10^{-7}$	CL=90%	2564	DESIG=290
$K^*(892)^- \mu^+ \mu^+$	*L*		$<$ 5.9	$\times 10^{-7}$	CL=90%	2560	DESIG=292
$K^*(892)^- e^+ \mu^+$	*L*		$<$ 3.0	$\times 10^{-7}$	CL=90%	2563	DESIG=293

$D^- e^+ e^+$	L	$<$	2.6	$\times 10^{-6}$	CL=90%	2309	DESIG=572
$D^- e^+ \mu^+$	L	$<$	1.8	$\times 10^{-6}$	CL=90%	2307	DESIG=573
$D^- \mu^+ \mu^+$	L	$<$	6.9	$\times 10^{-7}$	CL=95%	2303	DESIG=574
$D^{*-} \mu^+ \mu^+$	L	$<$	2.4	$\times 10^{-6}$	CL=95%	2251	DESIG=604
$D_s^- \mu^+ \mu^+$	L	$<$	5.8	$\times 10^{-7}$	CL=95%	2267	DESIG=605
$\overline{D}^0 \pi^- \mu^+ \mu^+$	L	$<$	1.5	$\times 10^{-6}$	CL=95%	2295	DESIG=606
$\Lambda^0 \mu^+$	L,B	$<$	6	$\times 10^{-8}$	CL=90%	–	DESIG=567
$\Lambda^0 e^+$	L,B	$<$	3.2	$\times 10^{-8}$	CL=90%	–	DESIG=568
$\overline{\Lambda}^0 \mu^+$	L,B	$<$	6	$\times 10^{-8}$	CL=90%	–	DESIG=569
$\overline{\Lambda}^0 e^+$	L,B	$<$	8	$\times 10^{-8}$	CL=90%	–	DESIG=570

B^0

$I(J^P) = \frac{1}{2}(0^-)$

NODE=S042

I, J, P need confirmation. Quantum numbers shown are quark-model predictions.

Mass $m_{B^0} = 5279.72 \pm 0.08$ MeV — NODE=S042M;DTYPE=M

$m_{B^0} - m_{B^\pm} = 0.31 \pm 0.05$ MeV — NODE=S042DM;DTYPE=D

Mean life $\tau_{B^0} = (1.5113 \pm 0.0027) \times 10^{-12}$ s — NODE=S042T;DTYPE=T;OUR EVAL; → UNCHECKED ←

$c\tau = 453.1$ μm — NODE=S042CTA;DTYPE=C;OUR EVAL

$\tau_{B^+}/\tau_{B^0} = 1.0832 \pm 0.0034$ (direct measurements) — NODE=S042DT1;DTYPE=y;OUR EVAL; → UNCHECKED ←

B^0-$\overline{B}^0$ mixing parameters

CLUMP=Y

χ_d (B^0-$\overline{B}^0$ mixing probability) $= 0.1849 \pm 0.0010$ — NODE=S042CHD;DTYPE=Y;CLUMP=Y; OUR EVAL;→ UNCHECKED ←

$\Delta m_{B^0} = m_{B^0_H} - m_{B^0_L} = (0.5068 \pm 0.0019) \times 10^{12}$ $\hbar$ s^{-1} — NODE=S042D;DTYPE=Y;CLUMP=Y;OUR EVAL;→ UNCHECKED ←

$= (3.336 \pm 0.013) \times 10^{-10}$ MeV — NODE=S042D1;DTYPE=Y;CLUMP=Y;OUR EVAL

$x_d = \Delta m_{B^0}/\Gamma_{B^0} = 0.7659 \pm 0.0032$ — NODE=S042DG;DTYPE=Y;CLUMP=Y;OUR EVAL;→ UNCHECKED ←

$\mathrm{Re}(\lambda_{CP} / |\lambda_{CP}|)$ Re(z) $= 0.047 \pm 0.022$ — NODE=S042RZ1;DTYPE=Y;CLUMP=Y

$\Delta\Gamma$ Re(z) $= -0.007 \pm 0.004$ ps^{-1} — NODE=S042GRZ;DTYPE=Y;CLUMP=Y

Re(z) $= (-4 \pm 4) \times 10^{-2}$ (S = 1.4) — NODE=S042RZ0;DTYPE=Y;CLUMP=Y

Im(z) $= (-0.8 \pm 0.4) \times 10^{-2}$ — NODE=S042IZ1;DTYPE=Y;CLUMP=Y

CP violation parameters

CLUMP=E

$\mathrm{Re}(\epsilon_{B^0})/(1+|\epsilon_{B^0}|^2) = (-0.5 \pm 0.4) \times 10^{-3}$ — NODE=S042EPS;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←

$A_{T/CP}(B^0 \leftrightarrow \overline{B}^0) = 0.005 \pm 0.018$ — NODE=S042Y3;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to D^*(2010)^+ D^-) = 0.013 \pm 0.014$ — NODE=S042AC4;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to \overline{D}^0 \pi^0) = (0.4 \pm 2.4) \times 10^{-2}$ — NODE=S042A42;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to [K^+ K^-]_D K^*(892)^0) = -0.05 \pm 0.06$ — NODE=S042AD3;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to [K^+ \pi^-]_D K^*(892)^0) = 0.031 \pm 0.023$ — NODE=S042AD4;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to [K^+ \pi^- \pi^+ \pi^-]_D K^*(892)^0) = -0.012 \pm 0.024$ — NODE=S042A31;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to [K^- \pi^+]_D K^*(892)^0) = 0.19 \pm 0.19$ — NODE=S042A32;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to [K^- \pi^+ \pi^+ \pi^-]_D K^*(892)^0) = -0.01 \pm 0.24$ — NODE=S042A33;DTYPE=a;CLUMP=E

$R_d^+ = \Gamma(B^0 \to [\pi^+ K^-]_D K^{*0}) / \Gamma(B^0 \to [\pi^- K^+]_D K^{*0}) = 0.069 \pm 0.014$ — NODE=S042AD6;DTYPE=a;CLUMP=E

$R_d^- = \Gamma(\overline{B}^0 \to [\pi^- K^+]_D K^{*0}) / \Gamma(\overline{B}^0 \to [\pi^+ K^-]_D K^{*0}) = 0.093 \pm 0.014$ — NODE=S042AD7;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to [\pi^+ \pi^-]_D K^*(892)^0) = -0.03 \pm 0.10$ — NODE=S042AD5;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to [\pi^+ \pi^- \pi^+ \pi^-]_D K^*(892)^0) = 0.02 \pm 0.09$ — NODE=S042A28;DTYPE=a;CLUMP=E

$R_d^+ = \Gamma(B^0 \to [\pi^+ K^- \pi^+ \pi^-]_D K^{*0}) / \Gamma(B^0 \to [\pi^- K^+ \pi^+ \pi^-]_D K^{*0}) = 0.060 \pm 0.015$ — NODE=S042A29;DTYPE=a;CLUMP=E

$R_d^- = \Gamma(\overline{B}^0 \to [\pi^- K^+ \pi^+ \pi^-]_D K^{*0}) / \Gamma(\overline{B}^0 \to [\pi^+ K^- \pi^+ \pi^-]_D K^{*0}) = 0.038 \pm 0.015$ — NODE=S042A30;DTYPE=a;CLUMP=E

$\boldsymbol{A_{CP}(B^0 \to K^+ \pi^-)} = -0.0831 \pm 0.0031$ — NODE=S042ACP;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to \eta' K^*(892)^0) = -0.07 \pm 0.18$ — NODE=S042CP4;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to \eta' K_0^*(1430)^0) = -0.19 \pm 0.17$ — NODE=S042CT2;DTYPE=a;CLUMP=E

$A_{CP}(B^0 \to \eta' K_2^*(1430)^0) = 0.14 \pm 0.18$ — NODE=S042CT3;DTYPE=a;CLUMP=E

$\boldsymbol{A_{CP}(B^0 \to \eta K^*(892)^0)} = 0.19 \pm 0.05$ NODE=S042CP1;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \eta K_0^*(1430)^0) = 0.06 \pm 0.13$ NODE=S042AD1;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \eta K_2^*(1430)^0) = -0.07 \pm 0.19$ NODE=S042AD2;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to b_1 K^+) = -0.07 \pm 0.12$ NODE=S042CQ2;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \omega K^{*0}) = 0.45 \pm 0.25$ NODE=S042CQ8;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \omega (K\pi)_0^{*0}) = -0.07 \pm 0.09$ NODE=S042CR0;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \omega K_2^*(1430)^0) = -0.37 \pm 0.17$ NODE=S042CR1;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^+ \pi^- \pi^0) = (0 \pm 6) \times 10^{-2}$ NODE=S042AC7;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \rho^- K^+) = 0.20 \pm 0.11$ NODE=S042AC6;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \rho(1450)^- K^+) = -0.10 \pm 0.33$ NODE=S042CT4;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \rho(1700)^- K^+) = -0.4 \pm 0.6$ NODE=S042CT5;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^+ \pi^- \pi^0 \text{nonresonant}) = 0.10 \pm 0.18$ NODE=S042CQ5;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^0 \pi^+ \pi^-) = -0.01 \pm 0.05$ NODE=S042CQ9;DTYPE=a;CLUMP=E
$\boldsymbol{A_{CP}(B^0 \to K^*(892)^+ \pi^-)} = -0.27 \pm 0.04$ NODE=S042AC3;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to (K\pi)_0^{*+} \pi^-) = 0.02 \pm 0.04$ NODE=S042CQ6;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K_2^*(1430)^+ \pi^-) = -0.29 \pm 0.24$ NODE=S042A09;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^*(1680)^+ \pi^-) = -0.07 \pm 0.14$ NODE=S042A10;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to f_0(980) K_S^0) = 0.28 \pm 0.31$ NODE=S042A11;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to (K\pi)_0^{*0} \pi^0) = -0.15 \pm 0.11$ NODE=S042CQ7;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^{*0} \pi^0) = -0.15 \pm 0.13$ NODE=S042CQ4;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^*(892)^0 \pi^+ \pi^-) = 0.07 \pm 0.05$ NODE=S042CP6;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^*(892)^0 \rho^0) = -0.06 \pm 0.09$ NODE=S042AC9;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^{*0} f_0(980)) = 0.07 \pm 0.10$ NODE=S042AD0;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^{*+} \rho^-) = 0.21 \pm 0.15$ NODE=S042CT6;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^*(892)^0 K^+ K^-) = 0.01 \pm 0.05$ NODE=S042CP7;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to a_1^- K^+) = -0.16 \pm 0.12$ NODE=S042CQ1;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^0 K^0) = -0.6 \pm 0.7$ NODE=S042CP5;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^*(892)^0 \phi) = 0.00 \pm 0.04$ NODE=S042AC1;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^*(892)^0 K^- \pi^+) = 0.2 \pm 0.4$ NODE=S042CP8;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \phi (K\pi)_0^{*0}) = 0.12 \pm 0.08$ NODE=S042CP2;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \phi K_2^*(1430)^0) = -0.11 \pm 0.10$ NODE=S042CP3;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^*(892)^0 \gamma) = -0.012 \pm 0.010$ NODE=S042AKG;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K_2^*(1430)^0 \gamma) = -0.08 \pm 0.15$ NODE=S042AC8;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to X_s \gamma) = -0.009 \pm 0.018$ NODE=S042A12;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \rho^+ \pi^-) = 0.13 \pm 0.06 \quad (S = 1.1)$ NODE=S042AC5;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \rho^- \pi^+) = -0.08 \pm 0.08$ NODE=S042AC0;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to \omega \omega) = -0.4 \pm 0.4$ NODE=S042A54;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to a_1(1260)^\pm \pi^\mp) = -0.07 \pm 0.06$ NODE=S042AAP;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to b_1^- \pi^+) = -0.05 \pm 0.10$ NODE=S042CQ3;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to p \overline{p} K^*(892)^0) = 0.05 \pm 0.12$ NODE=S042CQ0;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to p \overline{\Lambda} \pi^-) = 0.04 \pm 0.07$ NODE=S042CLP;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^{*0} \ell^+ \ell^-) = -0.05 \pm 0.10$ NODE=S042CT1;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^{*0} e^+ e^-) = -0.21 \pm 0.19$ NODE=S042CU0;DTYPE=a;CLUMP=E
$A_{CP}(B^0 \to K^{*0} \mu^+ \mu^-) = -0.034 \pm 0.024$ NODE=S042CU1;DTYPE=a;CLUMP=E
$C_{D^{*-} D^+} (B^0 \to D^*(2010)^- D^+) = -0.02 \pm 0.08$ NODE=S042CPJ;DTYPE=a;CLUMP=E
$\boldsymbol{S_{D^{*-} D^+} (B^0 \to D^*(2010)^- D^+)} = -0.83 \pm 0.09$ NODE=S042SPJ;DTYPE=a;CLUMP=E
$C_{D^{*+} D^-} (B^0 \to D^*(2010)^+ D^-) = -0.03 \pm 0.09 \quad (S = 1.1)$ NODE=S042CPK;DTYPE=a;CLUMP=E
$\boldsymbol{S_{D^{*+} D^-} (B^0 \to D^*(2010)^+ D^-)} = -0.80 \pm 0.09$ NODE=S042SPK;DTYPE=a;CLUMP=E
$C_{D^{*+} D^{*-}} (B^0 \to D^{*+} D^{*-}) = 0.01 \pm 0.09 \quad (S = 1.6)$ NODE=S042LD1;DTYPE=a;CLUMP=E
$\boldsymbol{S_{D^{*+} D^{*-}} (B^0 \to D^{*+} D^{*-})} = -0.59 \pm 0.14 \quad (S = 1.8)$ NODE=S042LD2;DTYPE=a;CLUMP=E
$C_+ (B^0 \to D^{*+} D^{*-}) = 0.00 \pm 0.10 \quad (S = 1.6)$ NODE=S042CD+;DTYPE=a;CLUMP=E
$\boldsymbol{S_+ (B^0 \to D^{*+} D^{*-})} = -0.73 \pm 0.09$ NODE=S042SD+;DTYPE=a;CLUMP=E
$C_- (B^0 \to D^{*+} D^{*-}) = 0.19 \pm 0.31$ NODE=S042CD-;DTYPE=a;CLUMP=E
$S_- (B^0 \to D^{*+} D^{*-}) = -1.6 \pm 0.5$ NODE=S042SD-;DTYPE=a;CLUMP=E
$C (B^0 \to D^*(2010)^+ D^*(2010)^- K_S^0) = 0.01 \pm 0.29$ NODE=S042CDS;DTYPE=a;CLUMP=E
$S (B^0 \to D^*(2010)^+ D^*(2010)^- K_S^0) = 0.1 \pm 0.4$ NODE=S042SDS;DTYPE=a;CLUMP=E

$C_{D^+ D^-}$ $(B^0 \to D^+ D^-) = -0.06 \pm 0.18$ (S = 2.5) NODE=S042CPD;DTYPE=a;CLUMP=E
$S_{D^+ D^-}$ $(B^0 \to D^+ D^-)$ $= -0.64 \pm 0.09$ (S = 1.3) NODE=S042SPD;DTYPE=a;CLUMP=E
$C_{J/\psi(1S)\pi^0}$ $(B^0 \to J/\psi(1S)\pi^0) = 0.07 \pm 0.09$ (S = 1.1) NODE=S042CPL;DTYPE=a;CLUMP=E
$S_{J/\psi(1S)\pi^0}$ $(B^0 \to J/\psi(1S)\pi^0)$ $= -0.88 \pm 0.17$ (S = 1.6) NODE=S042SPL;DTYPE=a;CLUMP=E
$C(B^0 \to J/\psi(1S)\rho^0) = -0.06 \pm 0.06$ NODE=S042CPR;DTYPE=a;CLUMP=E
$S(B^0 \to J/\psi(1S)\rho^0)$ $= -0.66^{+0.16}_{-0.12}$ NODE=S042SPR;DTYPE=a;CLUMP=E
$C_{D^{(*)}_{CP} h^0}$ $(B^0 \to D^{(*)}_{CP} h^0) = -0.02 \pm 0.08$ NODE=S042CDH;DTYPE=a;CLUMP=E
$S_{D^{(*)}_{CP} h^0}$ $(B^0 \to D^{(*)}_{CP} h^0)$ $= -0.66 \pm 0.12$ NODE=S042SDH;DTYPE=a;CLUMP=E
$C_{K^0 \pi^0}$ $(B^0 \to K^0 \pi^0) = 0.00 \pm 0.08$ NODE=S042CKP;DTYPE=a;CLUMP=E
$S_{K^0 \pi^0}$ $(B^0 \to K^0 \pi^0)$ $= 0.64 \pm 0.13$ NODE=S042SKP;DTYPE=a;CLUMP=E
$C_{\eta'(958) K^0_S}$ $(B^0 \to \eta'(958) K^0_S) = -0.04 \pm 0.20$ (S = 2.5) NODE=S042Y1;DTYPE=a;CLUMP=E
$S_{\eta'(958) K^0_S}$ $(B^0 \to \eta'(958) K^0_S) = 0.43 \pm 0.17$ (S = 1.5) NODE=S042Y2;DTYPE=a;CLUMP=E
$C_{\eta' K^0}$ $(B^0 \to \eta' K^0) = -0.08 \pm 0.04$ (S = 1.1) NODE=S042CEK;DTYPE=a;CLUMP=E
$S_{\eta' K^0}$ $(B^0 \to \eta' K^0)$ $= 0.64 \pm 0.05$ NODE=S042SEK;DTYPE=a;CLUMP=E
$C_{\omega K^0_S}$ $(B^0 \to \omega K^0_S) = 0.0 \pm 0.4$ (S = 3.0) NODE=S042CW1;DTYPE=a;CLUMP=E
$S_{\omega K^0_S}$ $(B^0 \to \omega K^0_S) = 0.70 \pm 0.21$ NODE=S042SW1;DTYPE=a;CLUMP=E
$C\,(B^0 \to K^0_S \pi^0 \pi^0) = -0.21 \pm 0.20$ NODE=S042CK2;DTYPE=a;CLUMP=E
$S\,(B^0 \to K^0_S \pi^0 \pi^0) = 0.89^{+0.27}_{-0.30}$ NODE=S042SK2;DTYPE=a;CLUMP=E
$C_{\rho^0 K^0_S}$ $(B^0 \to \rho^0 K^0_S) = -0.04 \pm 0.20$ NODE=S042CX7;DTYPE=a;CLUMP=E
$S_{\rho^0 K^0_S}$ $(B^0 \to \rho^0 K^0_S) = 0.50^{+0.17}_{-0.21}$ NODE=S042SX7;DTYPE=a;CLUMP=E
$C_{f_0 K^0_S}$ $(B^0 \to f_0(980) K^0_S) = 0.29 \pm 0.20$ NODE=S042CF1;DTYPE=a;CLUMP=E
$S_{f_0 K^0_S}$ $(B^0 \to f_0(980) K^0_S)$ $= -0.50 \pm 0.16$ NODE=S042SF1;DTYPE=a;CLUMP=E
$S_{f_2 K^0_S}$ $(B^0 \to f_2(1270) K^0_S) = -0.5 \pm 0.5$ NODE=S042SF2;DTYPE=a;CLUMP=E
$C_{f_2 K^0_S}$ $(B^0 \to f_2(1270) K^0_S) = 0.3 \pm 0.4$ NODE=S042CF2;DTYPE=a;CLUMP=E
$S_{f_x K^0_S}$ $(B^0 \to f_x(1300) K^0_S) = -0.2 \pm 0.5$ NODE=S042SF3;DTYPE=a;CLUMP=E
$C_{f_x K^0_S}$ $(B^0 \to f_x(1300) K^0_S) = 0.13 \pm 0.35$ NODE=S042CF3;DTYPE=a;CLUMP=E
$S_{K^0 \pi^+ \pi^-}$ $(B^0 \to K^0 \pi^+ \pi^-$ nonresonant$) = -0.01 \pm 0.33$ NODE=S042SF4;DTYPE=a;CLUMP=E
$C_{K^0 \pi^+ \pi^-}$ $(B^0 \to K^0 \pi^+ \pi^-$ nonresonant$) = 0.01 \pm 0.26$ NODE=S042CF4;DTYPE=a;CLUMP=E
$C_{K^0_S K^0_S}$ $(B^0 \to K^0_S K^0_S) = 0.0 \pm 0.4$ (S = 1.4) NODE=S042CKS;DTYPE=a;CLUMP=E
$S_{K^0_S K^0_S}$ $(B^0 \to K^0_S K^0_S) = -0.8 \pm 0.5$ NODE=S042SKS;DTYPE=a;CLUMP=E
$C_{K^+ K^- K^0_S}$ $(B^0 \to K^+ K^- K^0_S$ nonresonant$) = 0.06 \pm 0.08$ NODE=S042CX2;DTYPE=a;CLUMP=E
$S_{K^+ K^- K^0_S}$ $(B^0 \to K^+ K^- K^0_S$ nonresonant$)$ $= -0.66 \pm 0.11$ NODE=S042SX2;DTYPE=a;CLUMP=E
$C_{K^+ K^- K^0_S}$ $(B^0 \to K^+ K^- K^0_S$ inclusive$) = 0.01 \pm 0.09$ NODE=S042CKK;DTYPE=a;CLUMP=E
$S_{K^+ K^- K^0_S}$ $(B^0 \to K^+ K^- K^0_S$ inclusive$)$ $= -0.65 \pm 0.12$ NODE=S042SKK;DTYPE=a;CLUMP=E
$C_{\phi K^0_S}$ $(B^0 \to \phi K^0_S) = -0.09 \pm 0.12$ NODE=S042CX1;DTYPE=a;CLUMP=E
$S_{\phi K^0_S}$ $(B^0 \to \phi K^0_S)$ $= 0.58 \pm 0.12$ NODE=S042SX1;DTYPE=a;CLUMP=E
$C_{K_S K_S K_S}(B^0 \to K_S K_S K_S) = -0.14 \pm 0.12$ NODE=S042CX5;DTYPE=a;CLUMP=E
$S_{K_S K_S K_S}(B^0 \to K_S K_S K_S) = -0.82 \pm 0.17$ NODE=S042SX5;DTYPE=a;CLUMP=E
$C_{K^0_S \pi^+ \pi^- \gamma}(B^0 \to K^0_S \pi^+ \pi^- \gamma) = -0.39 \pm 0.20$ NODE=S042CK0;DTYPE=a;CLUMP=E
$S_{K^0_S \pi^+ \pi^- \gamma}(B^0 \to K^0_S \pi^+ \pi^- \gamma) = 0.14 \pm 0.25$ NODE=S042SK0;DTYPE=a;CLUMP=E
$C_{K^{*0} \gamma}$ $(B^0 \to K^*(892)^0 \gamma) = 0.03 \pm 0.10$ NODE=S042CX4;DTYPE=a;CLUMP=E
$S_{K^{*0} \gamma}$ $(B^0 \to K^*(892)^0 \gamma) = -0.08 \pm 0.17$ NODE=S042SX4;DTYPE=a;CLUMP=E
$C_{\eta K^0 \gamma}$ $(B^0 \to \eta K^0 \gamma) = 0.1 \pm 0.4$ (S = 1.4) NODE=S042CEG;DTYPE=a;CLUMP=E
$S_{\eta K^0 \gamma}$ $(B^0 \to \eta K^0 \gamma) = -0.5 \pm 0.5$ (S = 1.2) NODE=S042SEG;DTYPE=a;CLUMP=E

$C_{K^0 \phi\gamma}$ $(B^0 \to K^0 \phi\gamma) = -0.3 \pm 0.6$ NODE=S042CPG;DTYPE=a;CLUMP=E
$S_{K^0 \phi\gamma}$ $(B^0 \to K^0 \phi\gamma) = 0.7^{+0.7}_{-1.1}$ NODE=S042SPG;DTYPE=a;CLUMP=E
$C(B^0 \to K^0_S \rho^0 \gamma) = -0.05 \pm 0.19$ NODE=S042CKR;DTYPE=a;CLUMP=E
$S(B^0 \to K^0_S \rho^0 \gamma) = -0.04 \pm 0.23$ NODE=S042SKR;DTYPE=a;CLUMP=E
$C\ (B^0 \to \rho^0 \gamma) = 0.4 \pm 0.5$ NODE=S042CX8;DTYPE=a;CLUMP=E
$S\ (B^0 \to \rho^0 \gamma) = -0.8 \pm 0.7$ NODE=S042SX8;DTYPE=a;CLUMP=E
$\boldsymbol{C_{\pi\pi}\ (B^0 \to \pi^+\pi^-)} = -0.314 \pm 0.030$ NODE=S042CPI;DTYPE=a;CLUMP=E
$\boldsymbol{S_{\pi\pi}\ (B^0 \to \pi^+\pi^-)} = -0.670 \pm 0.030$ NODE=S042SPI;DTYPE=a;CLUMP=E
$C_{\pi^0\pi^0}(B^0 \to \pi^0\pi^0) = -0.23 \pm 0.18$ NODE=S042CX6;DTYPE=a;CLUMP=E
$C_{\rho\pi}\ (B^0 \to \rho^+\pi^-) = -0.03 \pm 0.07$ (S = 1.2) NODE=S042CRP;DTYPE=a;CLUMP=E
$S_{\rho\pi}\ (B^0 \to \rho^+\pi^-) = 0.05 \pm 0.07$ NODE=S042SRP;DTYPE=a;CLUMP=E
$\boldsymbol{\Delta C_{\rho\pi}\ (B^0 \to \rho^+\pi^-)} = 0.27 \pm 0.06$ NODE=S042CDT;DTYPE=a;CLUMP=E
$\Delta S_{\rho\pi}\ (B^0 \to \rho^+\pi^-) = 0.01 \pm 0.08$ NODE=S042SDT;DTYPE=a;CLUMP=E
$C_{\rho^0\pi^0}\ (B^0 \to \rho^0\pi^0) = 0.27 \pm 0.24$ NODE=S042CRH;DTYPE=a;CLUMP=E
$S_{\rho^0\pi^0}\ (B^0 \to \rho^0\pi^0) = -0.23 \pm 0.34$ NODE=S042SRH;DTYPE=a;CLUMP=E
$C_{a_1\pi}\ (B^0 \to a_1(1260)^+\pi^-) = -0.05 \pm 0.11$ NODE=S042CAP;DTYPE=a;CLUMP=E
$S_{a_1\pi}\ (B^0 \to a_1(1260)^+\pi^-) = -0.2 \pm 0.4$ (S = 3.2) NODE=S042SAP;DTYPE=a;CLUMP=E
$\boldsymbol{\Delta C_{a_1\pi}\ (B^0 \to a_1(1260)^+\pi^-)} = 0.43 \pm 0.14$ (S = 1.3) NODE=S042CDA;DTYPE=a;CLUMP=E
$\Delta S_{a_1\pi}\ (B^0 \to a_1(1260)^+\pi^-) = -0.11 \pm 0.12$ NODE=S042SDA;DTYPE=a;CLUMP=E
$C\ (B^0 \to b_1^- K^+) = -0.22 \pm 0.24$ NODE=S042CAQ;DTYPE=a;CLUMP=E
$\boldsymbol{\Delta C\ (B^0 \to b_1^- \pi^+)} = -1.04 \pm 0.24$ NODE=S042SDB;DTYPE=a;CLUMP=E
$C_{\rho^0\rho^0}\ (B^0 \to \rho^0\rho^0) = 0.2 \pm 0.9$ NODE=S042CX9;DTYPE=a;CLUMP=E
$S_{\rho^0\rho^0}\ (B^0 \to \rho^0\rho^0) = 0.3 \pm 0.7$ NODE=S042SX9;DTYPE=a;CLUMP=E
$C_{\rho\rho}\ (B^0 \to \rho^+\rho^-) = 0.00 \pm 0.08$ NODE=S042CRR;DTYPE=a;CLUMP=E
$S_{\rho\rho}\ (B^0 \to \rho^+\rho^-) = -0.18 \pm 0.11$ NODE=S042SRR;DTYPE=a;CLUMP=E
$\left|\lambda\right|\ (B^0 \to J/\psi K^*(892)^0) < 0.25$, CL = 95% NODE=S042LD9;DTYPE=a;CLUMP=E
$\cos 2\beta\ (B^0 \to J/\psi K^*(892)^0) = 1.7^{+0.7}_{-0.9}$ (S = 1.6) NODE=S042CJ1;DTYPE=a;CLUMP=E
$\cos 2\beta\ (B^0 \to [K^0_S\pi^+\pi^-]_{D^{(*)}} h^0) = 0.91 \pm 0.25$ NODE=S042CJ2;DTYPE=a;CLUMP=E
$(S_+ + S_-)/2\ (B^0 \to D^{*-}\pi^+) = -0.039 \pm 0.011$ NODE=S042LD3;DTYPE=a;CLUMP=E
$(S_- - S_+)/2\ (B^0 \to D^{*-}\pi^+) = -0.009 \pm 0.015$ NODE=S042LD4;DTYPE=a;CLUMP=E
$(S_+ + S_-)/2\ (B^0 \to D^-\pi^+) = -0.046 \pm 0.023$ NODE=S042LD5;DTYPE=a;CLUMP=E
$(S_- - S_+)/2\ (B^0 \to D^-\pi^+) = -0.022 \pm 0.021$ NODE=S042LD6;DTYPE=a;CLUMP=E
$S_+\ (B^0 \to D^-\pi^+) = 0.058 \pm 0.023$ NODE=S042A06;DTYPE=a;CLUMP=E
$S_-\ (B^0 \to D^+\pi^-) = 0.038 \pm 0.021$ NODE=S042A07;DTYPE=a;CLUMP=E
$(S_+ + S_-)/2\ (B^0 \to D^-\rho^+) = -0.024 \pm 0.032$ NODE=S042DR+;DTYPE=a;CLUMP=E
$(S_- - S_+)/2\ (B^0 \to D^-\rho^+) = -0.10 \pm 0.06$ NODE=S042DR-;DTYPE=a;CLUMP=E
$C_{\eta_c K^0_S}\ (B^0 \to \eta_c K^0_S) = 0.08 \pm 0.13$ NODE=S042CEC;DTYPE=a;CLUMP=E
$\boldsymbol{S_{\eta_c K^0_S}\ (B^0 \to \eta_c K^0_S)} = 0.93 \pm 0.17$ NODE=S042SEC;DTYPE=a;CLUMP=E
$C_{c\overline{c}K^{(*)0}}\ (B^0 \to c\overline{c}K^{(*)0}) = (0.4 \pm 1.0) \times 10^{-2}$ NODE=S042CCC;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←
$\boldsymbol{\sin(2\beta)} = 0.710 \pm 0.011$ NODE=S042BET;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←
$C_{J/\psi(\mathrm{nS})K^0}\ (B^0 \to J/\psi(\mathrm{nS})K^0) = (0.2 \pm 1.0) \times 10^{-2}$ NODE=S042CJK;DTYPE=a;CLUMP=E; OUR EVAL;→ UNCHECKED ←
$\boldsymbol{S_{J/\psi(\mathrm{nS})K^0}\ (B^0 \to J/\psi(\mathrm{nS})K^0)} = 0.711 \pm 0.011$ NODE=S042SJK;DTYPE=a;CLUMP=E;OUR EVAL;→ UNCHECKED ←
$C_{J/\psi K^{*0}}\ (B^0 \to J/\psi K^{*0}) = 0.03 \pm 0.10$ NODE=S042CJS;DTYPE=a;CLUMP=E
$S_{J/\psi K^{*0}}\ (B^0 \to J/\psi K^{*0}) = 0.60 \pm 0.25$ NODE=S042SJS;DTYPE=a;CLUMP=E
$C_{\chi_{c0} K^0_S}\ (B^0 \to \chi_{c0} K^0_S) = -0.3^{+0.5}_{-0.4}$ NODE=S042CC2;DTYPE=a;CLUMP=E
$S_{\chi_{c0} K^0_S}\ (B^0 \to \chi_{c0} K^0_S) = -0.7 \pm 0.5$ NODE=S042SC2;DTYPE=a;CLUMP=E
$C_{\chi_{c1} K^0_S}\ (B^0 \to \chi_{c1} K^0_S) = 0.06 \pm 0.07$ NODE=S042CC1;DTYPE=a;CLUMP=E
$\boldsymbol{S_{\chi_{c1} K^0_S}\ (B^0 \to \chi_{c1} K^0_S)} = 0.63 \pm 0.10$ NODE=S042SC1;DTYPE=a;CLUMP=E
$\sin(2\beta_{\mathrm{eff}})(B^0 \to \phi K^0) = 0.22 \pm 0.30$ NODE=S042BTF;DTYPE=a;CLUMP=E
$\sin(2\beta_{\mathrm{eff}})(B^0 \to \phi K^*_0(1430)^0) = 0.97^{+0.03}_{-0.52}$ NODE=S042BFK;DTYPE=a;CLUMP=E

$\sin(2\beta_{\rm eff})(B^0 \to K^+ K^- K^0_S)$ $= 0.77^{+0.13}_{-0.12}$
NODE=S042BTK;DTYPE=a;CLUMP=E
$\sin(2\beta_{\rm eff})(B^0 \to [K^0_S \pi^+\pi^-]_{D^{(*)}} h^0) = 0.80 \pm 0.16$
NODE=S042BTM;DTYPE=a;CLUMP=E
$\beta_{\rm eff}(B^0 \to [K^0_S \pi^+\pi^-]_{D^{(*)}} h^0) = (22 \pm 5)^\circ$
NODE=S042A01;DTYPE=a;CLUMP=E
$2\beta_{\rm eff}(B^0 \to J/\psi\,\rho^0) = (42^{+10}_{-11})^\circ$
NODE=S042BEF;DTYPE=a;CLUMP=E
$|\lambda|\,(B^0 \to [K^0_S \pi^+\pi^-]_{D^{(*)}} h^0) = 1.01 \pm 0.08$
NODE=S042LDH;DTYPE=a;CLUMP=E
$|\sin(2\beta+\gamma)| > 0.40$, CL = 90%
NODE=S042BGA;DTYPE=a;CLUMP=E
$2\,\beta + \gamma = (80 \pm 60)^\circ$
NODE=S042BG0;DTYPE=a;CLUMP=E
α $= (84.1^{+3.7}_{-3.0})^\circ$
NODE=S042ALP;DTYPE=a;CLUMP=E;OUR EVAL;→ UNCHECKED ←
$x_+(B^0 \to D K^{*0}) = 0.07 \pm 0.08$
NODE=S042XP;DTYPE=a;CLUMP=E
$x_-(B^0 \to D K^{*0}) = -0.18 \pm 0.08$
NODE=S042XM;DTYPE=a;CLUMP=E
$y_+(B^0 \to D K^{*0}) = -0.35 \pm 0.10$
NODE=S042YP;DTYPE=a;CLUMP=E
$y_-(B^0 \to D K^{*0}) = -0.03 \pm 0.13$
NODE=S042YM;DTYPE=a;CLUMP=E
$r_{B^0}(B^0 \to D K^{*0})$ $= 0.250 \pm 0.022$
NODE=S042AR;DTYPE=a;CLUMP=E;OUR EVAL;→ UNCHECKED ←
$\delta_{B^0}(B^0 \to D K^{*0})$ $= (202.8^{+10.3}_{-9.0})^\circ$
NODE=S042A00;DTYPE=a;CLUMP=E;OUR EVAL;→ UNCHECKED ←
$a_{CP}(B^0 \to p\overline{p} K^+\pi^-) = (0.5 \pm 0.9)\%$
NODE=S042A44;DTYPE=a;CLUMP=E
$a_P(B^0 \to p\overline{p} K^+\pi^-) = (1.5 \pm 0.9)\%$
NODE=S042A45;DTYPE=a;CLUMP=E

$\overline{B}^0$ modes are charge conjugates of the modes below. Reactions indicate the weak decay vertex and do not include mixing. Modes which do not identify the charge state of the B are listed in the $B^\pm/B^0$ ADMIXTURE section.
NODE=S042215;NODE=S042

The branching fractions listed below assume 50% $B^0\overline{B}^0$ and 50% B^+B^- production at the $\Upsilon(4S)$. We have attempted to bring older measurements up to date by rescaling their assumed $\Upsilon(4S)$ production ratio to 50:50 and their assumed D, D_s, D^*, and ψ branching ratios to current values whenever this would affect our averages and best limits significantly.

Indentation is used to indicate a subchannel of a previous reaction. All resonant subchannels have been corrected for resonance branching fractions to the final state so the sum of the subchannel branching fractions can exceed that of the final state.

For inclusive branching fractions, *e.g.,* $B \to D^\pm X$, the values usually are multiplicities, not branching fractions. They can be greater than one.

B^0 DECAY MODES	Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)	
$\ell^+ \nu_\ell X$	[a] (10.33± 0.28) %		–	CLUMP=A;DESIG=94
$e^+ \nu_e X_c$	(10.1 ± 0.4) %		–	DESIG=375
$\ell^+ \nu_\ell X_u$	[a] (1.51± 0.19) $\times 10^{-3}$		–	DESIG=612
$D \ell^+ \nu_\ell X$	[a] (9.1 ± 0.8) %		–	DESIG=396
$D^- \ell^+ \nu_\ell$	[a] (2.12± 0.06) %		2309	DESIG=37
$D^- \tau^+ \nu_\tau$	(7.2 ± 1.5) $\times 10^{-3}$		1909	DESIG=416
$D^*(2010)^- \ell^+ \nu_\ell$	[a] (4.90± 0.12) %		2257	DESIG=181
$D^*(2010)^- \tau^+ \nu_\tau$	(1.50± 0.08) %	S=1.1	1838	DESIG=390
$\overline{D}^{(*)} n\pi \ell^+ \nu_\ell (n \geq 1)$	[a] (2.3 ± 0.5) %		–	DESIG=423
$\overline{D}^0 \pi^- \ell^+ \nu_\ell$	[a] (3.64± 0.20) $\times 10^{-3}$		2308	DESIG=311
$D^*_0(2300)^- \ell^+ \nu_\ell$, $D^{*-}_0 \to \overline{D}^0 \pi^-$	[a] < 4.4 $\times 10^{-4}$	CL=90%	–	DESIG=418
$D^*_2(2460)^- \ell^+ \nu_\ell$, $D^{*-}_2 \to \overline{D}^0 \pi^-$	[a] (1.41± 0.20) $\times 10^{-3}$	S=1.7	2065	DESIG=419
$\overline{D}^{*0} \pi^- \ell^+ \nu_\ell$	[a] (5.44± 0.28) $\times 10^{-3}$		2256	DESIG=312
$D_1(2420)^- \ell^+ \nu_\ell$, $D^-_1 \to \overline{D}^{*0} \pi^-$	[a] (2.85± 0.25) $\times 10^{-3}$		–	DESIG=420
$D_1(2420)^- \ell^+ \nu_\ell$, $D^-_1 \to D^- \pi^+ \pi^-$	[a] (1.02± 0.16) $\times 10^{-3}$		–	DESIG=623
$D'_1(2430)^- \ell^+ \nu_\ell$, $D'^-_1 \to \overline{D}^{*0} \pi^-$	[a] (2.5 ± 0.6) $\times 10^{-3}$		–	DESIG=421
$D^*_2(2460)^- \ell^+ \nu_\ell$, $D^{*-}_2 \to \overline{D}^{*0} \pi^-$	[a] (6.6 ± 1.1) $\times 10^{-4}$		2065	DESIG=422
$D^- \pi^+ \pi^- \ell^+ \nu_\ell$	[a] (1.45± 0.22) $\times 10^{-3}$		2299	DESIG=556
$D^{*-} \pi^+ \pi^- \ell^+ \nu_\ell$	[a] (5.1 ± 2.3) $\times 10^{-4}$		2247	DESIG=557
$\rho^- \ell^+ \nu_\ell$	[a] (2.94± 0.21) $\times 10^{-4}$		2583	DESIG=95
$\pi^- \ell^+ \nu_\ell$	[a] (1.50± 0.05) $\times 10^{-4}$		2638	DESIG=150
$\pi^- \tau^+ \nu_\tau$	< 2.5 $\times 10^{-4}$	CL=90%	2339	DESIG=548

Inclusive modes

NODE=S042;CLUMP=I

$K^{\pm}X$		(78 ± 8) %		–	DESIG=151
$D^0 X$		(8.1 ± 1.5) %		–	DESIG=290
$\overline{D}^0 X$		(47.4 ± 2.8) %		–	DESIG=291
$D^+ X$		< 3.9 %	CL=90%	–	DESIG=292
$D^- X$		(36.9 ± 3.3) %		–	DESIG=293
$D_s^+ X$		$(10.3 {}^{+2.1}_{-1.8})$ %		–	DESIG=294
$D_s^- X$		< 2.6 %	CL=90%	–	DESIG=295
$\Lambda_c^+ X$		< 3.1 %	CL=90%	–	DESIG=296
$\overline{\Lambda}_c^- X$		$(5.0 {}^{+2.1}_{-1.5})$ %		–	DESIG=297
$\overline{c} X$		(95 ± 5) %		–	DESIG=298
$c X$		(24.6 ± 3.1) %		–	DESIG=299
$\overline{c}/c X$		(119 ± 6) %		–	DESIG=300

D, D^*, or D_s modes

NODE=S042;CLUMP=B

$D^- \pi^+$		$(2.51 \pm 0.08) \times 10^{-3}$		2306	DESIG=30
$D^- \rho^+$		$(7.6 \pm 1.3) \times 10^{-3}$		2235	DESIG=34
$D^- K^0 \pi^+$		$(4.9 \pm 0.9) \times 10^{-4}$		2259	DESIG=313
$D^- K^*(892)^+$		$(4.5 \pm 0.7) \times 10^{-4}$		2211	DESIG=209
$D^- \omega \pi^+$		$(2.8 \pm 0.6) \times 10^{-3}$		2204	DESIG=205
$D^- K^+$		$(2.05 \pm 0.08) \times 10^{-4}$		2279	DESIG=201
$D^- K^+ \pi^+ \pi^-$		$(3.5 \pm 0.8) \times 10^{-4}$		2236	DESIG=508
$D^- K^+ \overline{K}^0$		$(1.64 \pm 0.26) \times 10^{-4}$		2188	DESIG=216
$D^- K^+ \overline{K}^*(892)^0$		$(7.7 \pm 0.6) \times 10^{-4}$		2070	DESIG=218
$\overline{D}^0 \pi^+ \pi^-$		$(8.8 \pm 0.5) \times 10^{-4}$		2301	DESIG=1
$D^*(2010)^- \pi^+$		$(2.66 \pm 0.07) \times 10^{-3}$		2255	DESIG=2
$\overline{D}^0 K^+ K^-$		$(6.1 \pm 0.5) \times 10^{-5}$		2191	DESIG=507
$D^- \pi^+ \pi^+ \pi^-$		$(6.0 \pm 0.6) \times 10^{-3}$		2287	DESIG=88
$(D^- \pi^+ \pi^+ \pi^-)$ nonresonant		$(3.9 \pm 1.9) \times 10^{-3}$		2287	DESIG=89
$D^- \pi^+ \rho^0$		$(1.1 \pm 1.0) \times 10^{-3}$		2206	DESIG=91
$D^- a_1(1260)^+$		$(6.0 \pm 3.3) \times 10^{-3}$		2121	DESIG=93
$D^*(2010)^- \pi^+ \pi^0$		(1.5 ± 0.5) %		2248	DESIG=19
$D^*(2010)^- \rho^+$		$(6.8 \pm 0.9) \times 10^{-3}$		2180	DESIG=3
$D^*(2010)^- K^+$		$(2.16 \pm 0.08) \times 10^{-4}$		2226	DESIG=202
$D^*(2010)^- K^0 \pi^+$		$(3.0 \pm 0.8) \times 10^{-4}$		2205	DESIG=314
$D^*(2010)^- K^*(892)^+$		$(3.3 \pm 0.6) \times 10^{-4}$		2155	DESIG=210
$D^*(2010)^- K^+ \overline{K}^0$		$(1.8 \pm 0.4) \times 10^{-4}$		2131	DESIG=217
$D^*(2010)^- K^+ \overline{K}^*(892)^0$		$(1.31 \pm 0.13) \times 10^{-3}$		2007	DESIG=219
$D^*(2010)^- \pi^+ \pi^+ \pi^-$		$(7.21 \pm 0.29) \times 10^{-3}$		2235	DESIG=20
$(D^*(2010)^- \pi^+ \pi^+ \pi^-)$ non-resonant		$(0.0 \pm 2.5) \times 10^{-3}$		2235	DESIG=90
$D^*(2010)^- \pi^+ \rho^0$		$(5.7 \pm 3.2) \times 10^{-3}$		2150	DESIG=92
$D^*(2010)^- a_1(1260)^+$		(1.30 ± 0.27) %		2061	DESIG=87
$\overline{D}_1(2420)^0 \pi^- \pi^+$, $\overline{D}_1^0 \to D^{*-} \pi^+$		$(1.47 \pm 0.35) \times 10^{-4}$		–	DESIG=523
$D^*(2010)^- K^+ \pi^- \pi^+$		$(4.7 \pm 0.4) \times 10^{-4}$		2181	DESIG=524
$D^*(2010)^- \pi^+ \pi^+ \pi^- \pi^0$		(1.76 ± 0.27) %		2218	DESIG=67
$D^{*-} 3\pi^+ 2\pi^-$		$(4.7 \pm 0.9) \times 10^{-3}$		2195	DESIG=289
$D^*(2010)^- \omega \pi^+$		$(2.46 \pm 0.18) \times 10^{-3}$	S=1.2	2148	DESIG=204
$\overline{D}_1(2430)^0 \omega$, $\overline{D}_1^0 \to D^{*-} \pi^+$		$(2.7 {}^{+0.8}_{-0.4}) \times 10^{-4}$		1992	DESIG=361
$D^{*-} \rho(1450)^+$, $\rho^+ \to \omega \pi^+$		$(1.07 {}^{+0.40}_{-0.34}) \times 10^{-3}$		–	DESIG=558
$\overline{D}_1(2420)^0 \omega$, $\overline{D}_1^0 \to D^{*-} \pi^+$		$(7.0 \pm 2.2) \times 10^{-5}$		1995	DESIG=559
$\overline{D}_2^*(2460)^0 \omega$, $\overline{D}_2^0 \to D^{*-} \pi^+$		$(4.0 \pm 1.4) \times 10^{-5}$		1975	DESIG=560
$D^{*-} b_1(1235)^+$, $b_1^+ \to \omega \pi^+$		$< 7 \times 10^{-5}$	CL=90%	–	DESIG=561
$\overline{D}^{**-} \pi^+$	[e]	$(1.9 \pm 0.9) \times 10^{-3}$		–	DESIG=357

$D_1(2420)^- \pi^+$, $D_1^- \to D^- \pi^+ \pi^-$	$(9.9 {}^{+2.0}_{-2.5}) \times 10^{-5}$		–	DESIG=331
$D_1(2420)^- \pi^+$, $D_1^- \to D^{*-} \pi^+ \pi^-$	$< 3.3 \times 10^{-5}$	CL=90%	–	DESIG=332
$\overline{D}_2^*(2460)^- \pi^+$, $D_2^{*-} \to D^0 \pi^-$	$(2.38 \pm 0.16) \times 10^{-4}$		2062	DESIG=124
$\overline{D}_0^*(2400)^- \pi^+$, $D_0^{*-} \to D^0 \pi^-$	$(7.6 \pm 0.8) \times 10^{-5}$		2090	DESIG=385
$D_2^*(2460)^- \pi^+$, $D_2^{*-} \to D^{*-} \pi^+ \pi^-$	$< 2.4 \times 10^{-5}$	CL=90%	–	DESIG=333
$\overline{D}_2^*(2460)^- \rho^+$	$< 4.9 \times 10^{-3}$	CL=90%	1974	DESIG=125
$D^0 \overline{D}^0$	$(1.4 \pm 0.7) \times 10^{-5}$		1868	DESIG=350
$D^{*0} \overline{D}^0$	$< 2.9 \times 10^{-4}$	CL=90%	1794	DESIG=351
$D^- D^+$	$(2.11 \pm 0.18) \times 10^{-4}$		1864	DESIG=184
$D^\pm D^{*\mp}$ (CP-averaged)	$(6.1 \pm 0.6) \times 10^{-4}$		–	DESIG=511
$D^- D_s^+$	$(8.1 \pm 0.6) \times 10^{-3}$	S=1.1	1812	DESIG=50
$D^*(2010)^- D_s^+$	$(8.2 \pm 0.8) \times 10^{-3}$		1735	DESIG=49
$D^- D_s^{*+}$	$(7.4 \pm 1.6) \times 10^{-3}$		1732	DESIG=103
$D^*(2010)^- D_s^{*+}$	(1.77 ± 0.14) %		1649	DESIG=66
$D_{s0}(2317)^- K^+$, $D_{s0}^- \to D_s^- \pi^0$	$(4.2 \pm 1.4) \times 10^{-5}$		2097	DESIG=323
$D_{s0}(2317)^- \pi^+$, $D_{s0}^- \to D_s^- \pi^0$	$< 2.5 \times 10^{-5}$	CL=90%	2128	DESIG=324
$D_{sJ}(2457)^- K^+$, $D_{sJ}^- \to D_s^- \pi^0$	$< 9.4 \times 10^{-6}$	CL=90%	–	DESIG=325
$D_{sJ}(2457)^- \pi^+$, $D_{sJ}^- \to D_s^- \pi^0$	$< 4.0 \times 10^{-6}$	CL=90%	–	DESIG=326
$D_s^- D_s^+$	$< 3.6 \times 10^{-5}$	CL=90%	1759	DESIG=316
$D_s^{*-} D_s^+$	$< 1.3 \times 10^{-4}$	CL=90%	1675	DESIG=317
$D_s^{*-} D_s^{*+}$	$< 2.4 \times 10^{-4}$	CL=90%	1583	DESIG=318
$D_{s0}^*(2317)^+ D^-$, $D_{s0}^{*+} \to D_s^+ \pi^0$	$(1.05 \pm 0.16) \times 10^{-3}$	S=1.1	1602	DESIG=253
$D_{s0}(2317)^+ D^-$, $D_{s0}^+ \to D_s^{*+} \gamma$	$< 9.5 \times 10^{-4}$	CL=90%	–	DESIG=304
$D_{s0}(2317)^+ D^*(2010)^-$, $D_{s0}^+ \to D_s^+ \pi^0$	$(1.5 \pm 0.6) \times 10^{-3}$		1509	DESIG=97
$D_{sJ}(2457)^+ D^-$	$(3.5 \pm 1.1) \times 10^{-3}$		–	DESIG=254
$D_{sJ}(2457)^+ D^-$, $D_{sJ}^+ \to D_s^+ \gamma$	$(6.5 {}^{+1.7}_{-1.4}) \times 10^{-4}$		–	DESIG=99
$D_{sJ}(2457)^+ D^-$, $D_{sJ}^+ \to D_s^{*+} \gamma$	$< 6.0 \times 10^{-4}$	CL=90%	–	DESIG=301
$D_{sJ}(2457)^+ D^-$, $D_{sJ}^+ \to D_s^+ \pi^+ \pi^-$	$< 2.0 \times 10^{-4}$	CL=90%	–	DESIG=302
$D_{sJ}(2457)^+ D^-$, $D_{sJ}^+ \to D_s^+ \pi^0$	$< 3.6 \times 10^{-4}$	CL=90%	–	DESIG=303
$D^*(2010)^- D_{sJ}(2457)^+$	$(9.3 \pm 2.2) \times 10^{-3}$		–	DESIG=98
$D_{sJ}(2457)^+ D^*(2010)$, $D_{sJ}^+ \to D_s^+ \gamma$	$(2.3 {}^{+0.9}_{-0.7}) \times 10^{-3}$		–	DESIG=100
$D^- D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*0} K^+ + D^{*+} K^0$	$(2.8 \pm 0.7) \times 10^{-4}$		1444	DESIG=489
$D^- D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*0} K^+$	$(1.7 \pm 0.6) \times 10^{-4}$		1444	DESIG=271
$D^- D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*+} K^0$	$(2.6 \pm 1.1) \times 10^{-4}$		1444	DESIG=391

$D^*(2010)^- D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*0} K^+ + D^{*+} K^0$	$(5.0 \pm 1.4) \times 10^{-4}$		1336	DESIG=490
$D^*(2010)^- D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*0} K^+$	$(3.3 \pm 1.1) \times 10^{-4}$		1336	DESIG=272
$D^{*-} D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*+} K^0$	$(5.0 \pm 1.7) \times 10^{-4}$		1336	DESIG=392
$D^- D_{sJ}(2573)^+$, $D_{sJ}^+ \to D^0 K^+$	$(3.4 \pm 1.8) \times 10^{-5}$		1414	DESIG=273
$D^*(2010)^- D_{sJ}(2573)^+$, $D_{sJ}^+ \to D^0 K^+$	$< 2 \times 10^{-4}$	CL=90%	1304	DESIG=274
$D^- D_{sJ}(2700)^+$, $D_{sJ}^+ \to D^0 K^+$	$(7.1 \pm 1.2) \times 10^{-4}$		–	DESIG=545
$D^+ \pi^-$	$(7.3 \pm 1.2) \times 10^{-7}$		2306	DESIG=488
$D_s^+ \pi^-$	$(2.03 \pm 0.18) \times 10^{-5}$		2271	DESIG=51
$D_s^{*+} \pi^-$	$(2.1 \pm 0.4) \times 10^{-5}$	S=1.4	2215	DESIG=108
$D_s^+ \rho^-$	$< 2.4 \times 10^{-5}$	CL=90%	2197	DESIG=110
$D_s^{*+} \rho^-$	$(4.1 \pm 1.3) \times 10^{-5}$		2138	DESIG=111
$D_s^+ a_0^-$	$< 1.9 \times 10^{-5}$	CL=90%	–	DESIG=352
$D_s^{*+} a_0^-$	$< 3.6 \times 10^{-5}$	CL=90%	–	DESIG=353
$D_s^+ a_1(1260)^-$	$< 2.1 \times 10^{-3}$	CL=90%	2080	DESIG=112
$D_s^{*+} a_1(1260)^-$	$< 1.7 \times 10^{-3}$	CL=90%	2015	DESIG=113
$D_s^+ a_2^-$	$< 1.9 \times 10^{-4}$	CL=90%	–	DESIG=354
$D_s^{*+} a_2^-$	$< 2.0 \times 10^{-4}$	CL=90%	–	DESIG=355
$D_s^- K^+$	$(2.7 \pm 0.5) \times 10^{-5}$	S=2.7	2242	DESIG=52
$D_s^{*-} K^+$	$(2.19 \pm 0.30) \times 10^{-5}$		2185	DESIG=120
$D_{s1}(2536)^\mp K^\pm$, $D_{s1}^- \to \overline{D}^*(2007)^0 K^-$	$(5.1 \pm 0.6) \times 10^{-6}$		–	DESIG=637
$D_s^- K^*(892)^+$	$(3.5 \pm 1.0) \times 10^{-5}$		2172	DESIG=114
$D_s^{*-} K^*(892)^+$	$(3.2 {}^{+1.5}_{-1.3}) \times 10^{-5}$		2112	DESIG=115
$D_s^- \pi^+ K^0$	$(9.7 \pm 1.4) \times 10^{-5}$		2222	DESIG=116
$D_s^{*-} \pi^+ K^0$	$< 1.10 \times 10^{-4}$	CL=90%	2164	DESIG=117
$D_s^- K^+ \pi^+ \pi^-$	$(1.7 \pm 0.5) \times 10^{-4}$		2198	DESIG=512
$D_s^- \pi^+ K^*(892)^0$	$< 3.0 \times 10^{-3}$	CL=90%	2138	DESIG=118
$D_s^{*-} \pi^+ K^*(892)^0$	$< 1.6 \times 10^{-3}$	CL=90%	2076	DESIG=119
$\overline{D}^0 K^0$	$(5.5 \pm 0.4) \times 10^{-5}$		2280	DESIG=242
$\overline{D}^0 K^+ \pi^-$	$(8.8 \pm 1.7) \times 10^{-5}$		2262	DESIG=319
$\overline{D}^0 K^*(892)^0$	$(4.5 \pm 0.6) \times 10^{-5}$		2213	DESIG=243
$\overline{D}^0 K^*(1410)^0$	$< 6.7 \times 10^{-5}$	CL=90%	2062	DESIG=551
$\overline{D}^0 K_0^*(1430)^0$	$(7 \pm 7) \times 10^{-6}$		2058	DESIG=552
$\overline{D}^0 K_2^*(1430)^0$	$(2.1 \pm 0.9) \times 10^{-5}$		2057	DESIG=553
$D_0^*(2300)^- K^+$, $D_0^{*-} \to \overline{D}^0 \pi^-$	$(1.9 \pm 0.9) \times 10^{-5}$		–	DESIG=554
$D_2^*(2460)^- K^+$, $D_2^{*-} \to \overline{D}^0 \pi^-$	$(2.03 \pm 0.35) \times 10^{-5}$		2029	DESIG=320
$D_3^*(2760)^- K^+$, $D_3^{*-} \to \overline{D}^0 \pi^-$	$< 1.0 \times 10^{-6}$	CL=90%	–	DESIG=555
$\overline{D}^0 K^+ \pi^-$ nonresonant	$< 3.7 \times 10^{-5}$	CL=90%	2262	DESIG=321
$[K^+ K^-]_D K^*(892)^0$	$(3.7 \pm 0.5) \times 10^{-5}$		–	DESIG=516
$[\pi^+ \pi^-]_D K^*(892)^0$	$(5.0 \pm 0.8) \times 10^{-5}$		–	DESIG=537
$[\pi^+ \pi^- \pi^+ \pi^-]_D K^{*0}$	$(4.0 \pm 0.6) \times 10^{-5}$		–	DESIG=596
$\overline{D}^0 \pi^0$	$(2.67 \pm 0.09) \times 10^{-4}$		2308	DESIG=128
$\overline{D}^0 \rho^0$	$(3.21 \pm 0.21) \times 10^{-4}$		2237	DESIG=35
$\overline{D}^0 f_2$	$(1.56 \pm 0.21) \times 10^{-4}$		–	DESIG=386
$\overline{D}^0 \eta$	$(2.56 \pm 0.12) \times 10^{-4}$		2274	DESIG=129

$\overline{D}^0 \eta'$	$(1.38 \pm 0.16) \times 10^{-4}$	S=1.3	2198	DESIG=130
$\overline{D}^0 \omega$	$(2.54 \pm 0.16) \times 10^{-4}$		2235	DESIG=131
$\overline{D}^0 \phi$	$(7.7 \pm 2.3) \times 10^{-7}$		2183	DESIG=638
$D^0 K^+ \pi^-$	$(5.3 \pm 3.2) \times 10^{-6}$		2262	DESIG=322
$\quad D^0 K^*(892)^0$	$(3.0 \pm 0.6) \times 10^{-6}$		2213	DESIG=246
$\overline{D}^{*0} \gamma$	$< 2.5 \times 10^{-5}$	CL=90%	2258	DESIG=187
$\overline{D}^*(2007)^0 \pi^0$	$(2.2 \pm 0.6) \times 10^{-4}$	S=2.6	2256	DESIG=132
$\overline{D}^*(2007)^0 \rho^0$	$< 5.1 \times 10^{-4}$	CL=90%	2182	DESIG=133
$\overline{D}^*(2007)^0 \eta$	$(2.3 \pm 0.6) \times 10^{-4}$	S=2.8	2220	DESIG=134
$\overline{D}^*(2007)^0 \eta'$	$(1.40 \pm 0.22) \times 10^{-4}$		2141	DESIG=135
$\overline{D}^*(2007)^0 \pi^+ \pi^-$	$(6.2 \pm 2.2) \times 10^{-4}$		2249	DESIG=239
$\overline{D}^*(2007)^0 K^+ \pi^-$	$(5.2 \pm 1.9) \times 10^{-5}$		2207	DESIG=613
$\overline{D}^*(2007)^0 K^0$	$(3.6 \pm 1.2) \times 10^{-5}$		2227	DESIG=244
$\overline{D}^*(2007)^0 K^*(892)^0$	$< 6.9 \times 10^{-5}$	CL=90%	2157	DESIG=245
$\overline{D}^*(2007)^0 \phi$	$(2.2 \pm 0.6) \times 10^{-6}$		2125	DESIG=641
$D^*(2007)^0 K^*(892)^0$	$< 4.0 \times 10^{-5}$	CL=90%	2157	DESIG=247
$D^*(2007)^0 \pi^+ \pi^+ \pi^- \pi^-$	$(2.7 \pm 0.5) \times 10^{-3}$		2219	DESIG=195
$D^*(2010)^+ D^*(2010)^-$	$(8.0 \pm 0.6) \times 10^{-4}$		1711	DESIG=154
$\overline{D}^*(2007)^0 \omega$	$(3.6 \pm 1.1) \times 10^{-4}$	S=3.1	2180	DESIG=136
$D^*(2010)^+ D^-$	$(6.1 \pm 1.5) \times 10^{-4}$	S=1.6	1790	DESIG=155
$D^*(2007)^0 \overline{D}^*(2007)^0$	$< 9 \times 10^{-5}$	CL=90%	1715	DESIG=185
$D^- D^0 K^+$	$(1.07 \pm 0.11) \times 10^{-3}$		1574	DESIG=260
$D^- D^*(2007)^0 K^+$	$(3.5 \pm 0.4) \times 10^{-3}$		1478	DESIG=261
$D^*(2010)^- D^0 K^+$	$(2.47 \pm 0.21) \times 10^{-3}$		1479	DESIG=262
$D^*(2010)^- D^*(2007)^0 K^+$	(1.06 ± 0.09) %		1366	DESIG=263
$D^- D^+ K^0$	$(7.5 \pm 1.7) \times 10^{-4}$		1568	DESIG=264
$D^*(2010)^- D^+ K^0 + D^- D^*(2010)^+ K^0$	$(6.4 \pm 0.5) \times 10^{-3}$		1473	DESIG=265
$D^*(2010)^- D^*(2010)^+ K^0$	$(8.1 \pm 0.7) \times 10^{-3}$		1360	DESIG=266
$\quad D^{*-} D_{s1}(2536)^+,\ D_{s1}^+ \to D^{*+} K^0$	$(8.0 \pm 2.4) \times 10^{-4}$		1336	DESIG=366
$\overline{D}^0 D^0 K^0$	$(2.7 \pm 1.1) \times 10^{-4}$		1575	DESIG=267
$D^0 \overline{D}^0 K^+ \pi^-$	$(3.5 \pm 0.5) \times 10^{-4}$		1476	DESIG=609
$\overline{D}^0 D^*(2007)^0 K^0 + \overline{D}^*(2007)^0 D^0 K^0$	$(1.1 \pm 0.5) \times 10^{-3}$		1478	DESIG=268
$\overline{D}^*(2007)^0 D^*(2007)^0 K^0$	$(2.4 \pm 0.9) \times 10^{-3}$		1365	DESIG=269
$(\overline{D} + \overline{D}^*)(D + D^*) K$	(3.68 ± 0.26) %		–	DESIG=270
Charmonium modes				NODE=S042;CLUMP=C
$\eta_c K^0$	$(1.04 \pm 0.13) \times 10^{-3}$		1751	DESIG=189
$\eta_c(1S) K^+ \pi^-$	$(7.8 \pm 1.0) \times 10^{-4}$		1722	DESIG=574
$\quad \eta_c(1S) K^+ \pi^-$ (NR)	$(8.1 \pm 1.7) \times 10^{-5}$		–	DESIG=579
$\quad T_{c\overline{c}}(4100)^- K^+,\ T_{c\overline{c}}^- \to \eta_c \pi^-$	$(2.6 \pm 1.3) \times 10^{-5}$		–	DESIG=585
$\eta_c(1S) K^*(1410)^0$	$(2.5 \pm 1.9) \times 10^{-4}$		1395	DESIG=578
$\eta_c(1S) K_0^*(1430)^0$	$(2.1 \pm 0.5) \times 10^{-4}$		1387	DESIG=580
$\eta_c(1S) K_2^*(1430)^0$	$(6.4\ ^{+2.9}_{-3.5}) \times 10^{-5}$		1386	DESIG=581
$\eta_c(1S) K^*(1680)^0$	$(4 \pm 5) \times 10^{-5}$		1166	DESIG=582
$\eta_c(1S) K_0^*(1950)^0$	$(6\ ^{+4}_{-5}) \times 10^{-5}$		–	DESIG=583
$\eta_c K^*(892)^0$	$(5.3\ ^{+1.0}_{-1.2}) \times 10^{-4}$	S=2.0	1646	DESIG=240
$\eta_c(2S) K_S^0,\ \eta_c \to p \overline{p} \pi^+ \pi^-$	$(4.2\ ^{+1.4}_{-1.2}) \times 10^{-7}$		–	DESIG=593
$\eta_c(2S) K^{*0}$	$< 3.9 \times 10^{-4}$	CL=90%	1158	DESIG=436
$h_c(1P) K_S^0$	$< 1.4 \times 10^{-5}$		1401	DESIG=592
$h_c(1P) K^{*0}$	$< 3.4 \times 10^{-4}$	CL=90%	1253	DESIG=437
$J/\psi(1S) K^0$	$(8.91 \pm 0.21) \times 10^{-4}$		1683	DESIG=23
$J/\psi(1S) K^+ \pi^-$	$(1.15 \pm 0.05) \times 10^{-3}$		1652	DESIG=4
$\quad J/\psi(1S) K^*(892)^0$	$(1.27 \pm 0.05) \times 10^{-3}$		1571	DESIG=22
$J/\psi(1S) \eta K_S^0$	$(5.4 \pm 0.9) \times 10^{-5}$		1508	DESIG=278

$J/\psi(1S)\eta' K^0_S$		$< 2.5 \times 10^{-5}$	CL=90%	1271	DESIG=384
$J/\psi(1S)\phi K^0$		$(4.9 \pm 1.0) \times 10^{-5}$	S=1.3	1224	DESIG=194
$J/\psi(1S)\omega K^0$		$(2.3 \pm 0.4) \times 10^{-4}$		1386	DESIG=440
$\chi_{c0}(3915)$, $\chi_{c0} \to J/\psi\omega$		$(2.1 \pm 0.9) \times 10^{-5}$		1102	DESIG=485
$J/\psi(1S) K(1270)^0$		$(1.3 \pm 0.5) \times 10^{-3}$		1400	DESIG=203
$J/\psi(1S)\pi^0$		$(1.73 \pm 0.09) \times 10^{-5}$	S=1.2	1728	DESIG=140
$J/\psi(1S)\eta$		$(1.23 \pm 0.19) \times 10^{-5}$		1673	DESIG=153
$J/\psi(1S)\pi^+\pi^-$		$(3.99 \pm 0.15) \times 10^{-5}$		1716	DESIG=241
$J/\psi(1S)\pi^+\pi^-$ nonresonant		$< 1.2 \times 10^{-5}$	CL=90%	1716	DESIG=387
$J/\psi(1S) f_0(500)$, $f_0 \to \pi\pi$		$(8.8 {}^{+1.2}_{-1.6}) \times 10^{-6}$		–	DESIG=513
$J/\psi(1S) f_2$		$(3.3 {}^{+0.5}_{-0.6}) \times 10^{-6}$	S=1.5	–	DESIG=388
$J/\psi(1S)\rho^0$		$(2.55 {}^{+0.18}_{-0.16}) \times 10^{-5}$		1612	DESIG=148
$J/\psi(1S) f_0(980)$, $f_0 \to \pi^+\pi^-$		$< 1.1 \times 10^{-6}$	CL=90%	–	DESIG=514
$J/\psi(1S)\rho(1450)^0$, $\rho^0 \to \pi\pi$		$(2.9 {}^{+1.6}_{-0.7}) \times 10^{-6}$		–	DESIG=515
$J/\psi\rho(1700)^0$, $\rho^0 \to \pi^+\pi^-$		$(2.0 \pm 1.3) \times 10^{-6}$		–	DESIG=539
$J/\psi(1S)\omega$		$(2.08 \pm 0.29) \times 10^{-5}$		1609	DESIG=149
$J/\psi(1S) K^+ K^-$		$(2.53 \pm 0.35) \times 10^{-6}$		1534	DESIG=525
$J/\psi(1S) a_0(980)$, $a_0 \to K^+ K^-$		$(4.7 \pm 3.4) \times 10^{-7}$		–	DESIG=526
$J/\psi(1S)\phi$		$< 1.1 \times 10^{-7}$	CL=90%	1520	DESIG=249
$J/\psi(1S)\eta'(958)$		$(5.9 \pm 1.2) \times 10^{-6}$		1546	DESIG=250
$J/\psi(1S) K^0\pi^+\pi^-$		$(4.5 \pm 0.4) \times 10^{-4}$		1611	DESIG=211
$J/\psi(1S) K^0 K^-\pi^+ +$ c.c.		$< 2.1 \times 10^{-5}$	CL=90%	1468	DESIG=535
$J/\psi(1S) K^0 K^+ K^-$		$(2.5 \pm 0.7) \times 10^{-5}$	S=1.8	1249	DESIG=532
$J/\psi(1S) K^0\rho^0$		$(5.4 \pm 3.0) \times 10^{-4}$		1390	DESIG=212
$J/\psi(1S) K^*(892)^+\pi^-$		$(8 \pm 4) \times 10^{-4}$		1514	DESIG=213
$J/\psi(1S)\pi^+\pi^-\pi^+\pi^-$		$(1.44 \pm 0.12) \times 10^{-5}$		1670	DESIG=530
$J/\psi(1S) f_1(1285)$		$(8.4 \pm 2.1) \times 10^{-6}$		1385	DESIG=531
$J/\psi(1S) K^*(892)^0\pi^+\pi^-$		$(6.6 \pm 2.2) \times 10^{-4}$		1447	DESIG=214
$\eta_{c2}(1D) K^0_S$, $\eta_{c2} \to h_c\gamma$		$< 3.5 \times 10^{-5}$	CL=90%	–	DESIG=603
$\eta_{c2}(1D)\pi^- K^+$, $\eta_{c2} \to h_c\gamma$		$< 1.0 \times 10^{-4}$	CL=90%	–	DESIG=604
$\chi_{c1}(3872)^- K^+$		$< 5 \times 10^{-4}$	CL=90%	–	DESIG=330
$\chi_{c1}(3872)^- K^+$, $\chi_{c1}(3872)^- \to J/\psi(1S)\pi^-\pi^0$	[f]	$< 4.2 \times 10^{-6}$	CL=90%	–	DESIG=308
$\chi_{c1}(3872) K^0$		$(1.1 \pm 0.4) \times 10^{-4}$		1140	DESIG=605
$\chi_{c1}(3872) K^*(892)^0$		$(9 \pm 5) \times 10^{-5}$		940	DESIG=606
$\chi_{c1}(3872) K^+\pi^-$		$(1.8 \pm 0.7) \times 10^{-4}$		1087	DESIG=607
$\chi_{c1}(3872)\gamma$		$< 1.2 \times 10^{-5}$	CL=90%	1220	DESIG=608
$T_{c\overline{c}1}(4430)^\pm K^\mp$, $T^\pm_{c\overline{c}1} \to \psi(2S)\pi^\pm$		$(6.0 {}^{+3.0}_{-2.4}) \times 10^{-5}$		583	DESIG=438
$T_{c\overline{c}1}(4430)^\pm K^\mp$, $T^\pm_{c\overline{c}1} \to J/\psi\pi^\pm$		$(5.4 {}^{+4.0}_{-1.2}) \times 10^{-6}$		583	DESIG=450
$T_{c\overline{c}1}(3900)^\pm K^\mp$, $T^\pm_{c\overline{c}1} \to J/\psi\pi^\pm$		$< 9 \times 10^{-7}$		–	DESIG=563
$T_{c\overline{c}1}(4200)^\pm K^\mp$, $T^\pm_{c\overline{c}1} \to J/\psi\pi^\pm$		$(2.2 {}^{+1.3}_{-0.8}) \times 10^{-5}$		–	DESIG=564
$J/\psi(1S) p\overline{p}$		$(4.5 \pm 0.6) \times 10^{-7}$		862	DESIG=248
$J/\psi(1S)\gamma$		$< 1.5 \times 10^{-6}$	CL=90%	1732	DESIG=279
$J/\psi\mu^+\mu^-$, $J/\psi \to \mu^+\mu^-$		$< 1.0 \times 10^{-9}$	CL=95%	–	DESIG=620
$J/\psi(1S)\overline{D}^0$		$< 9.6 \times 10^{-7}$	CL=90%	877	DESIG=306
$\psi(2S)\pi^0$		$(1.17 \pm 0.19) \times 10^{-5}$		1348	DESIG=549
$\psi(2S) K^0$		$(5.8 \pm 0.5) \times 10^{-4}$		1283	DESIG=68

$\psi(2S)\,K^0\pi^+\pi^-$	$(2.81\pm0.30)\times10^{-4}$		1177	DESIG=615
$\psi(3770)\,K^0,\ \psi\to\ \overline{D}^0 D^0$	$<1.23\times10^{-4}$	CL=90%	1217	DESIG=393
$\psi(3770)\,K^0,\ \psi\to\ D^- D^+$	$<1.88\times10^{-4}$	CL=90%	1217	DESIG=394
$\psi(2S)\,\pi^+\pi^-$	$(2.24\pm0.35)\times10^{-5}$		1332	DESIG=527
$\psi(2S)\,K^+\pi^-$	$(5.8\pm0.4)\times10^{-4}$		1239	DESIG=70
$\quad\psi(2S)\,K^*(892)^0$	$(5.9\pm0.4)\times10^{-4}$		1116	DESIG=69
$\chi_{c0}\,K^0$	$(1.9\pm0.4)\times10^{-4}$		1477	DESIG=190
$\chi_{c0}\,K^*(892)^0$	$(1.7\pm0.4)\times10^{-4}$		1341	DESIG=327
$\chi_{c1}\,\pi^0$	$(1.12\pm0.28)\times10^{-5}$		1468	DESIG=444
$\chi_{c1}\,K^0$	$(3.95\pm0.27)\times10^{-4}$		1411	DESIG=126
$\chi_{c1}\,\pi^- K^+$	$(4.97\pm0.30)\times10^{-4}$		1372	DESIG=441
$\quad\chi_{c1}\,K^*(892)^0$	$(2.38\pm0.19)\times10^{-4}$	S=1.2	1265	DESIG=127
$\quad T_{c\overline{c}}(4050)^- K^+,\ \ T^-_{c\overline{c}}\to\ \chi_{c1}\pi^-$	$(3.0\ ^{+4.0}_{-1.8})\times10^{-5}$		–	DESIG=442
$\quad T_{c\overline{c}}(4250)^- K^+,\ \ T^-_{c\overline{c}}\to\ \chi_{c1}\pi^-$	$(4.0\ ^{+20.0}_{-1.0})\times10^{-5}$		–	DESIG=443
$\chi_{c1}\,\pi^+\pi^- K^0$	$(3.2\pm0.5)\times10^{-4}$		1318	DESIG=565
$\chi_{c1}\,\pi^-\pi^0 K^+$	$(3.5\pm0.6)\times10^{-4}$		1321	DESIG=566
$\chi_{c2}\,K^0$	$<1.5\times10^{-5}$	CL=90%	1379	DESIG=328
$\chi_{c2}\,K^*(892)^0$	$(4.9\pm1.2)\times10^{-5}$	S=1.1	1228	DESIG=329
$\chi_{c2}\,\pi^- K^+$	$(7.2\pm1.0)\times10^{-5}$		1338	DESIG=568
$\chi_{c2}\,\pi^+\pi^- K^0$	$<1.70\times10^{-4}$	CL=90%	1282	DESIG=569
$\chi_{c2}\,\pi^-\pi^0 K^+$	$<7.4\times10^{-5}$	CL=90%	1286	DESIG=567
$\psi(4660)\,K^0,\ \psi\to\ \Lambda_c^+\Lambda_c^-$	$<2.3\times10^{-4}$	CL=90%	–	DESIG=576
$\psi(4230)^0\,K^0,\ \psi^0\to\ J/\psi\,\pi^+\pi^-$	$<1.7\times10^{-5}$	CL=90%	–	DESIG=590

K or *K** modes

NODE=S042;CLUMP=D

$K^+\pi^-$	$(2.00\pm0.04)\times10^{-5}$		2615	DESIG=10
$K^0\pi^0$	$(1.01\pm0.04)\times10^{-5}$		2615	DESIG=144
$\eta'\,K^0$	$(6.6\pm0.4)\times10^{-5}$	S=1.4	2528	DESIG=163
$\eta'\,K^*(892)^0$	$(2.8\pm0.6)\times10^{-6}$		2472	DESIG=164
$\eta'\,K_0^*(1430)^0$	$(6.3\pm1.6)\times10^{-6}$		2346	DESIG=474
$\eta'\,K_2^*(1430)^0$	$(1.37\pm0.32)\times10^{-5}$		2346	DESIG=475
$\eta\,K^0$	$(1.23\,^{+0.27}_{-0.24})\times10^{-6}$		2587	DESIG=166
$\eta\,K^*(892)^0$	$(1.59\pm0.10)\times10^{-5}$		2534	DESIG=165
$\eta\,K_0^*(1430)^0$	$(1.10\pm0.22)\times10^{-5}$		2415	DESIG=343
$\eta\,K_2^*(1430)^0$	$(9.6\pm2.1)\times10^{-6}$		2414	DESIG=344
$\omega\,K^0$	$(4.8\pm0.4)\times10^{-6}$		2557	DESIG=172
$a_0(980)^0\,K^0,\ \ a_0^0\to\ \eta\pi^0$	$<7.8\times10^{-6}$	CL=90%	–	DESIG=288
$b_1^0\,K^0,\ \ b_1^0\to\ \omega\pi^0$	$<7.8\times10^{-6}$	CL=90%	–	DESIG=430
$a_0(980)^\pm\,K^\mp,\ \ a_0^\pm\to\ \eta\pi^\pm$	$<1.9\times10^{-6}$	CL=90%	–	DESIG=287
$b_1^-\,K^+,\ \ b_1^-\to\ \omega\pi^-$	$(7.4\pm1.4)\times10^{-6}$		–	DESIG=410
$b_1^0\,K^{*0},\ \ b_1^0\to\ \omega\pi^0$	$<8.0\times10^{-6}$	CL=90%	–	DESIG=465
$b_1^-\,K^{*+},\ \ b_1^-\to\ \omega\pi^-$	$<5.0\times10^{-6}$	CL=90%	–	DESIG=466
$a_0(1450)^\pm\,K^\mp,\ \ a_0^\pm\to\ \eta\pi^\pm$	$<3.1\times10^{-6}$	CL=90%	–	DESIG=378
$K_S^0\,X^0$ (Familon)	$<5.3\times10^{-5}$	CL=90%	–	DESIG=208
$\omega\,K^*(892)^0$	$(2.0\pm0.5)\times10^{-6}$		2503	DESIG=173
$\omega\,(K\pi)_0^{*0}$	$(1.84\pm0.25)\times10^{-5}$		–	DESIG=447
$\omega\,K_0^*(1430)^0$	$(1.60\pm0.34)\times10^{-5}$		2380	DESIG=448
$\omega\,K_2^*(1430)^0$	$(1.01\pm0.23)\times10^{-5}$		2380	DESIG=449
$\omega\,K^+\pi^-$ nonresonant	$(5.1\pm1.0)\times10^{-6}$		2542	DESIG=446
$K^+\pi^-\pi^0$	$(3.78\pm0.32)\times10^{-5}$		2610	DESIG=229
$\quad K^+\rho^-$	$(7.0\pm0.9)\times10^{-6}$		2559	DESIG=145
$\quad K^+\rho(1450)^-$	$(2.4\pm1.2)\times10^{-6}$		–	DESIG=424
$\quad K^+\rho(1700)^-$	$(6\pm7)\times10^{-7}$		–	DESIG=425
$\quad(K^+\pi^-\pi^0)$ nonresonant	$(2.8\pm0.6)\times10^{-6}$		2610	DESIG=282

$(K\pi)_0^{*+}\pi^-$, $(K\pi)_0^{*+} \to K^+\pi^0$		$(3.4 \pm 0.5) \times 10^{-5}$		–	DESIG=426
$(K\pi)_0^{*0}\pi^0$, $(K\pi)_0^{*0} \to K^+\pi^-$		$(8.6 \pm 1.7) \times 10^{-6}$		–	DESIG=427
$K_2^*(1430)^0\pi^0$		$< 4.0 \times 10^{-6}$	CL=90%	2445	DESIG=428
$K^*(1680)^0\pi^0$		$< 7.5 \times 10^{-6}$	CL=90%	2358	DESIG=429
$K_x^{*0}\pi^0$	[i]	$(6.1 \pm 1.6) \times 10^{-6}$		–	DESIG=280
$K^0\pi^+\pi^-$		$(4.97 \pm 0.18) \times 10^{-5}$		2609	DESIG=80
$K^0\pi^+\pi^-$ nonresonant		$(1.39 ^{+0.26}_{-0.18}) \times 10^{-5}$	S=1.6	2609	DESIG=367
$K^0\rho^0$		$(3.4 \pm 1.1) \times 10^{-6}$	S=2.3	2558	DESIG=12
$K^*(892)^+\pi^-$		$(7.5 \pm 0.4) \times 10^{-6}$		2563	DESIG=11
$K_0^*(1430)^+\pi^-$		$(3.3 \pm 0.7) \times 10^{-5}$	S=2.0	–	DESIG=368
$K_x^{*+}\pi^-$	[i]	$(5.1 \pm 1.6) \times 10^{-6}$		–	DESIG=281
$K^*(1410)^+\pi^-$, $K^{*+} \to K^0\pi^+$		$< 3.8 \times 10^{-6}$	CL=90%	–	DESIG=369
$(K\pi)_0^{*+}\pi^-$, $(K\pi)_0^{*+} \to K^0\pi^+$		$(1.62 \pm 0.13) \times 10^{-5}$		–	DESIG=589
$f_0(980)K^0$, $f_0 \to \pi^+\pi^-$		$(8.1 \pm 0.8) \times 10^{-6}$	S=1.3	2522	DESIG=372
$K^0 f_0(500)$		$(1.6 ^{+2.5}_{-1.6}) \times 10^{-7}$		–	DESIG=587
$K^0 f_0(1500)$		$(1.3 \pm 0.8) \times 10^{-6}$		2393	DESIG=586
$f_2(1270)K^0$		$(2.7 ^{+1.3}_{-1.2}) \times 10^{-6}$		2459	DESIG=373
$f_x(1300)K0, f_x \to \pi^+\pi^-$		$(1.8 \pm 0.7) \times 10^{-6}$		–	DESIG=473
$K^*(892)^0\pi^0$		$(3.3 \pm 0.6) \times 10^{-6}$		2563	DESIG=146
$K_2^*(1430)^+\pi^-$		$(3.65 \pm 0.34) \times 10^{-6}$		2445	DESIG=72
$K^*(1680)^+\pi^-$		$(1.41 \pm 0.10) \times 10^{-5}$		2358	DESIG=370
$K^+\pi^-\pi^+\pi^-$	[j]	$< 2.3 \times 10^{-4}$	CL=90%	2600	DESIG=143
$\rho^0 K^+\pi^-$		$(2.8 \pm 0.7) \times 10^{-6}$		2543	DESIG=461
$f_0(980)K^+\pi^-$, $f_0 \to \pi\pi$		$(1.4 ^{+0.5}_{-0.6}) \times 10^{-6}$		2506	DESIG=462
$K^+\pi^-\pi^+\pi^-$ nonresonant		$< 2.1 \times 10^{-6}$	CL=90%	2600	DESIG=464
$K^*(892)^0\pi^+\pi^-$		$(5.5 \pm 0.5) \times 10^{-5}$		2557	DESIG=84
$K^*(892)^0\rho^0$		$(3.9 \pm 1.3) \times 10^{-6}$	S=1.9	2504	DESIG=15
$K^*(892)^0 f_0(980)$, $f_0 \to \pi\pi$		$(3.9 ^{+2.1}_{-1.8}) \times 10^{-6}$	S=3.9	2466	DESIG=45
$K_1(1270)^+\pi^-$		$< 3.0 \times 10^{-5}$	CL=90%	2488	DESIG=472
$K_1(1400)^+\pi^-$		$< 2.7 \times 10^{-5}$	CL=90%	2451	DESIG=86
$a_1(1260)^- K^+$	[j]	$(1.6 \pm 0.4) \times 10^{-5}$		2471	DESIG=142
$K^*(892)^+\rho^-$		$(1.03 \pm 0.26) \times 10^{-5}$		2504	DESIG=342
$K_0^*(1430)^+\rho^-$		$(2.8 \pm 1.2) \times 10^{-5}$		–	DESIG=501
$K_1(1400)^0\rho^0$		$< 3.0 \times 10^{-3}$	CL=90%	2388	DESIG=73
$K_0^*(1430)^0\rho^0$		$(2.7 \pm 0.6) \times 10^{-5}$		2381	DESIG=498
$K_0^*(1430)^0 f_0(980)$, $f_0 \to \pi\pi$		$(2.7 \pm 0.9) \times 10^{-6}$		–	DESIG=499
$K_2^*(1430)^0 f_0(980)$, $f_0 \to \pi\pi$		$(8.6 \pm 2.0) \times 10^{-6}$		–	DESIG=500
K^+K^-		$(7.8 \pm 1.5) \times 10^{-8}$		2593	DESIG=106
$K^0\overline{K}^0$		$(1.21 \pm 0.16) \times 10^{-6}$		2593	DESIG=162
$K^0K^-\pi^+$		$(6.7 \pm 0.5) \times 10^{-6}$		2578	DESIG=228
$K^*(892)^\pm K^\mp$		$< 4 \times 10^{-7}$	CL=90%	2540	DESIG=538
$\overline{K}^{*0}K^0 + K^{*0}\overline{K}^0$		$< 9.6 \times 10^{-7}$	CL=90%	–	DESIG=341
$K^+K^-\pi^0$		$(2.2 \pm 0.6) \times 10^{-6}$		2579	DESIG=230
$K_S^0K_S^0\pi^0$		$< 9 \times 10^{-7}$	CL=90%	2578	DESIG=458
$K_S^0K_S^0\eta$		$< 1.0 \times 10^{-6}$	CL=90%	2516	DESIG=459
$K_S^0K_S^0\eta'$		$< 2.0 \times 10^{-6}$	CL=90%	2453	DESIG=460
$K^0K^+K^-$		$(2.68 \pm 0.11) \times 10^{-5}$		2522	DESIG=81
$K^0\phi$		$(7.3 \pm 0.7) \times 10^{-6}$		2516	DESIG=13
$f_0(980)K^0$, $f_0 \to K^+K^-$		$(7.0 ^{+3.5}_{-3.0}) \times 10^{-6}$		–	DESIG=502
$f_0(1500)K^0$		$(1.3 ^{+0.7}_{-0.5}) \times 10^{-5}$		2393	DESIG=503

$f_2'(1525)^0 K^0$		(	$3\ ^{+5}_{-4}$) $\times 10^{-7}$		–	DESIG=504
$f_0(1710) K^0$, $f_0 \to K^+ K^-$		(	4.4 ± 0.9) $\times 10^{-6}$		–	DESIG=505
$K^0 K^+ K^-$ nonresonant		(	3.3 ± 1.0) $\times 10^{-5}$		2522	DESIG=506
$K^0_S K^0_S K^0_S$		(	6.0 ± 0.5) $\times 10^{-6}$	S=1.1	2521	DESIG=255
$f_0(980) K^0$, $f_0 \to K^0_S K^0_S$		(	2.7 ± 1.8) $\times 10^{-6}$		–	DESIG=494
$f_0(1710) K^0$, $f_0 \to K^0_S K^0_S$		(	$5.0\ ^{+5.0}_{-2.6}$) $\times 10^{-7}$		–	DESIG=495
$f_2(2010) K^0$, $f_2 \to K^0_S K^0_S$		(	5 ± 6) $\times 10^{-7}$		–	DESIG=496
$K^0_S K^0_S K^0_S$ nonresonant		(	1.33 ± 0.31) $\times 10^{-5}$		2521	DESIG=497
$K^0_S K^0_S K^0_L$		<	1.6×10^{-5}	CL=90%	2521	DESIG=339
$K^*(892)^0 K^+ K^-$		(	2.75 ± 0.26) $\times 10^{-5}$		2467	DESIG=85
$K^*(892)^0 \phi$		(	1.00 ± 0.05) $\times 10^{-5}$		2460	DESIG=14
$K^+ K^- \pi^+ \pi^-$ nonresonant		<	7.17×10^{-5}	CL=90%	2559	DESIG=476
$K^*(892)^0 K^- \pi^+$		(	4.5 ± 1.3) $\times 10^{-6}$		2524	DESIG=402
$K^*(892)^0 \overline{K}^*(892)^0$		(	8.3 ± 2.4) $\times 10^{-7}$	S=1.5	2485	DESIG=188
$K^+ K^+ \pi^- \pi^-$ nonresonant		<	6.0×10^{-6}	CL=90%	2559	DESIG=480
$K^*(892)^0 K^+ \pi^-$		<	2.2×10^{-6}	CL=90%	2524	DESIG=403
$K^*(892)^0 K^*(892)^0$		<	2×10^{-7}	CL=90%	2485	DESIG=206
$K^*(892)^+ K^*(892)^-$		<	2.0×10^{-6}	CL=90%	2485	DESIG=207
$K_1(1400)^0 \phi$		<	5.0×10^{-3}	CL=90%	2340	DESIG=75
$\phi (K\pi)^{*0}_0$		(	4.3 ± 0.4) $\times 10^{-6}$		–	DESIG=346
$\phi (K\pi)^{*0}_0$ ($1.60 < m_{K\pi} < 2.15$)	[k]	<	1.7×10^{-6}	CL=90%	–	DESIG=397
$K^*_0(1430)^0 K^- \pi^+$		<	3.18×10^{-5}	CL=90%	2404	DESIG=477
$K^*_0(1430)^0 \overline{K}^*(892)^0$		<	3.3×10^{-6}	CL=90%	2360	DESIG=478
$K^*_0(1430)^0 \overline{K}^*_0(1430)^0$		<	8.4×10^{-6}	CL=90%	2222	DESIG=479
$K^*_0(1430)^0 \phi$		(	3.9 ± 0.8) $\times 10^{-6}$		2333	DESIG=305
$K^*_0(1430)^0 K^*(892)^0$		<	1.7×10^{-6}	CL=90%	2360	DESIG=481
$K^*_0(1430)^0 K^*_0(1430)^0$		<	4.7×10^{-6}	CL=90%	2222	DESIG=482
$K^*(1680)^0 \phi$		<	3.5×10^{-6}	CL=90%	2238	DESIG=398
$K^*(1780)^0 \phi$		<	2.7×10^{-6}	CL=90%	–	DESIG=399
$K^*(2045)^0 \phi$		<	1.53×10^{-5}	CL=90%	–	DESIG=400
$K^*_2(1430)^0 \rho^0$		<	1.1×10^{-3}	CL=90%	2381	DESIG=74
$K^*_2(1430)^0 \phi$		(	6.8 ± 0.9) $\times 10^{-6}$	S=1.2	2332	DESIG=76
$K^0 \phi \phi$		(	3.7 ± 0.7) $\times 10^{-6}$	S=1.3	2305	DESIG=345
$\eta' \eta' K^0$		<	3.1×10^{-5}	CL=90%	2338	DESIG=338
$\eta K^0 \gamma$		(	7.6 ± 1.8) $\times 10^{-6}$		2587	DESIG=309
$\eta' K^0 \gamma$		<	6.4×10^{-6}	CL=90%	2528	DESIG=337
$K^0 \phi \gamma$		(	2.7 ± 0.7) $\times 10^{-6}$		2516	DESIG=283
$K^+ \pi^- \gamma$		(	4.6 ± 1.4) $\times 10^{-6}$		2615	DESIG=231
$K^*(892)^0 \gamma$		(	4.21 ± 0.24) $\times 10^{-5}$	S=2.0	2565	DESIG=16
$K^*(1410) \gamma$		<	1.3×10^{-4}	CL=90%	2451	DESIG=233
$K^+ \pi^- \gamma$ nonresonant		<	2.6×10^{-6}	CL=90%	2615	DESIG=234
$K^*(892)^0 X(214)$, $X \to \mu^+ \mu^-$	[l]	<	2.26×10^{-8}	CL=90%	–	DESIG=483
$K^0 \pi^+ \pi^- \gamma$		(	1.99 ± 0.18) $\times 10^{-5}$		2609	DESIG=310
$K^+ \pi^- \pi^0 \gamma$		(	4.1 ± 0.4) $\times 10^{-5}$		2610	DESIG=376
$K_1(1270)^0 \gamma$		<	5.8×10^{-5}	CL=90%	2491	DESIG=38
$K_1(1400)^0 \gamma$		<	1.2×10^{-5}	CL=90%	2454	DESIG=39
$K^*_2(1430)^0 \gamma$		(	1.24 ± 0.24) $\times 10^{-5}$		2447	DESIG=40
$K^*(1680)^0 \gamma$		<	2.0×10^{-3}	CL=90%	2360	DESIG=41
$K^*_3(1780)^0 \gamma$		<	8.3×10^{-5}	CL=90%	2340	DESIG=42
$K^*_4(2045)^0 \gamma$		<	4.3×10^{-3}	CL=90%	2243	DESIG=43

Light unflavored meson modes

NODE=S042;CLUMP=E

$\rho^0\gamma$		$(8.0 \pm 0.6) \times 10^{-7}$	S=1.4	2583	DESIG=191
$\rho^0 X(214)$, $X \to \mu^+\mu^-$	[l]	$< 1.73 \times 10^{-8}$	CL=90%	–	DESIG=484
$\omega\gamma$		$(4.4\ ^{+1.8}_{-1.6}) \times 10^{-7}$		2582	DESIG=192
$\phi\gamma$		$< 1.0 \times 10^{-7}$	CL=90%	2541	DESIG=193
$f_2(1270)\gamma$, $f_2 \to (KS)^0(KS)^0$		$< 3.1 \times 10^{-7}$		–	DESIG=616
$f'_2(1525)\gamma$, $f'_2 \to (KS)^0(KS)^0$		$< 2.1 \times 10^{-7}$		–	DESIG=617
$\pi^+\pi^-$		$(5.37 \pm 0.20) \times 10^{-6}$	S=1.3	2636	DESIG=5
$\pi^0\pi^0$		$(1.46 \pm 0.19) \times 10^{-6}$	S=1.3	2636	DESIG=137
$\eta\pi^0$		$(4.1 \pm 1.7) \times 10^{-7}$		2610	DESIG=60
$\eta\eta$		$< 1.0 \times 10^{-6}$	CL=90%	2582	DESIG=139
$\eta'\pi^0$		$(1.2 \pm 0.6) \times 10^{-6}$	S=1.7	2551	DESIG=167
$\eta'\eta'$		$< 1.7 \times 10^{-6}$	CL=90%	2460	DESIG=168
$\eta'\eta$		$< 1.2 \times 10^{-6}$	CL=90%	2523	DESIG=169
$\eta'\rho^0$		$< 1.3 \times 10^{-6}$	CL=90%	2492	DESIG=170
$\eta' f_0(980)$, $f_0 \to \pi^+\pi^-$		$< 9 \times 10^{-7}$	CL=90%	2454	DESIG=347
$\eta\rho^0$		$< 1.5 \times 10^{-6}$	CL=90%	2553	DESIG=171
$\eta f_0(980)$, $f_0 \to \pi^+\pi^-$		$< 4 \times 10^{-7}$	CL=90%	2516	DESIG=379
$\omega\eta$		$(9.4\ ^{+4.0}_{-3.1}) \times 10^{-7}$		2552	DESIG=174
$\omega\eta'$		$(1.0\ ^{+0.5}_{-0.4}) \times 10^{-6}$		2491	DESIG=175
$\omega\rho^0$		$< 1.6 \times 10^{-6}$	CL=90%	2522	DESIG=176
$\omega f_0(980)$, $f_0 \to \pi^+\pi^-$		$< 1.5 \times 10^{-6}$	CL=90%	2485	DESIG=340
$\omega\omega$		$(1.40 \pm 0.25) \times 10^{-6}$		2521	DESIG=177
$\phi\pi^0$		$< 1.5 \times 10^{-7}$	CL=90%	2540	DESIG=178
$\phi\eta$		$< 5 \times 10^{-7}$	CL=90%	2511	DESIG=179
$\phi\eta'$		$< 5 \times 10^{-7}$	CL=90%	2448	DESIG=180
$\phi\pi^+\pi^-$		$(1.8 \pm 0.5) \times 10^{-7}$		2533	DESIG=570
$\phi\rho^0$		$< 3.3 \times 10^{-7}$	CL=90%	2480	DESIG=182
$\phi f_0(980)$, $f_0 \to \pi^+\pi^-$		$< 3.8 \times 10^{-7}$	CL=90%	2441	DESIG=434
$\phi\omega$		$< 7 \times 10^{-7}$	CL=90%	2479	DESIG=183
$\phi\phi$		$< 1.3 \times 10^{-8}$	CL=90%	2435	DESIG=147
$a_0(980)^{\pm}\pi^{\mp}$, $a_0^{\pm} \to \eta\pi^{\pm}$		$< 3.1 \times 10^{-6}$	CL=90%	–	DESIG=286
$a_0(1450)^{\pm}\pi^{\mp}$, $a_0^{\pm} \to \eta\pi^{\pm}$		$< 2.3 \times 10^{-6}$	CL=90%	–	DESIG=377
$\pi^+\pi^-\pi^0$		$< 7.2 \times 10^{-4}$	CL=90%	2631	DESIG=53
$\rho^0\pi^0$		$(2.0 \pm 0.5) \times 10^{-6}$		2581	DESIG=54
$\rho^{\mp}\pi^{\pm}$	[n]	$(2.30 \pm 0.23) \times 10^{-5}$		2581	DESIG=24
$\pi^+\pi^-\pi^+\pi^-$		$< 1.12 \times 10^{-5}$	CL=90%	2621	DESIG=55
$\rho^0\pi^+\pi^-$		$< 8.8 \times 10^{-6}$	CL=90%	2575	DESIG=432
$\rho^0\rho^0$		$(9.6 \pm 1.5) \times 10^{-7}$		2524	DESIG=26
$f_0(980)\pi^+\pi^-$, $f_0 \to \pi^+\pi^-$		$< 3.0 \times 10^{-6}$	CL=90%	–	DESIG=536
$\rho^0 f_0(980)$, $f_0 \to \pi^+\pi^-$		$(7.8 \pm 2.5) \times 10^{-7}$		2486	DESIG=348
$f_0(980) f_0(980)$, $f_0 \to \pi^+\pi^-$, $f_0 \to \pi^+\pi^-$		$< 1.9 \times 10^{-7}$	CL=90%	2447	DESIG=349
$f_0(980) f_0(980)$, $f_0 \to \pi^+\pi^-$, $f_0 \to K^+K^-$		$< 2.3 \times 10^{-7}$	CL=90%	2447	DESIG=435
$a_1(1260)^{\mp}\pi^{\pm}$	[n]	$(2.6 \pm 0.5) \times 10^{-5}$	S=1.9	2495	DESIG=27
$a_2(1320)^{\mp}\pi^{\pm}$	[n]	$< 6.3 \times 10^{-6}$	CL=90%	2473	DESIG=28
$\pi^+\pi^-\pi^0\pi^0$		$< 3.1 \times 10^{-3}$	CL=90%	2622	DESIG=56
$\rho^+\rho^-$		$(2.80 \pm 0.17) \times 10^{-5}$		2524	DESIG=57
$a_1(1260)^0\pi^0$		$< 1.1 \times 10^{-3}$	CL=90%	2495	DESIG=58
$\omega\pi^0$		$< 5 \times 10^{-7}$	CL=90%	2580	DESIG=59
$\pi^+\pi^+\pi^-\pi^-\pi^0$		$< 9.0 \times 10^{-3}$	CL=90%	2609	DESIG=61
$a_1(1260)^+\rho^-$		$< 6.1 \times 10^{-5}$	CL=90%	2433	DESIG=62
$a_1(1260)^0\rho^0$		$< 2.4 \times 10^{-3}$	CL=90%	2433	DESIG=63

$b_1^{\mp}\pi^{\pm}$, $b_1^{\mp} \to \omega\pi^{\mp}$		$(1.09\pm 0.15)\times 10^{-5}$		–	DESIG=411
$b_1^0\pi^0$, $b_1^0 \to \omega\pi^0$		$< 1.9 \times 10^{-6}$	CL=90%	–	DESIG=431
$b_1^-\rho^+$, $b_1^- \to \omega\pi^-$		$< 1.4 \times 10^{-6}$	CL=90%	–	DESIG=467
$b_1^0\rho^0$, $b_1^0 \to \omega\pi^0$		$< 3.4 \times 10^{-6}$	CL=90%	–	DESIG=468
$\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-$		$< 3.0 \times 10^{-3}$	CL=90%	2592	DESIG=64
$a_1(1260)^+ a_1(1260)^-$, $a_1^+ \to 2\pi^+\pi^-$, $a_1^- \to 2\pi^-\pi^+$		$(1.18\pm 0.31)\times 10^{-5}$		2336	DESIG=46
$\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^0$		< 1.1 %	CL=90%	2572	DESIG=65
Baryon modes					NODE=S042;CLUMP=F
$p\overline{p}$		$(1.27\pm 0.14)\times 10^{-8}$		2467	DESIG=29
$p\overline{p}\pi^+\pi^-$		$(2.87\pm 0.19)\times 10^{-6}$		2406	DESIG=32
$p\overline{p}K^+\pi^-$		$(6.3 \pm 0.5)\times 10^{-6}$		2306	DESIG=571
$p\overline{p}K^0$		$(2.79\pm 0.16)\times 10^{-6}$		2347	DESIG=220
$\Theta(1540)^+\overline{p}$, $\Theta^+ \to pK_S^0$	[o]	$< 5 \times 10^{-8}$	CL=90%	2318	DESIG=307
$f_J(2220)K^0$, $f_J \to p\overline{p}$		$< 4.5 \times 10^{-7}$	CL=90%	2135	DESIG=414
$p\overline{p}K^*(892)^0$		$(1.24^{+0.28}_{-0.25})\times 10^{-6}$		2216	DESIG=277
$f_J(2220)K_0^*$, $f_J \to p\overline{p}$		$< 1.5 \times 10^{-7}$	CL=90%	–	DESIG=415
$p\overline{p}K^+K^-$		$(1.21\pm 0.32)\times 10^{-7}$		2179	DESIG=572
$p\overline{p}\pi^0$		$(5.0 \pm 1.9)\times 10^{-7}$		2440	DESIG=594
$p\overline{p}p\overline{p}$		$(2.2 \pm 0.4)\times 10^{-8}$		1735	DESIG=573
$p\overline{\Lambda}\pi^-$		$(3.16\pm 0.24)\times 10^{-6}$		2401	DESIG=33
$p\overline{\Lambda}\pi^-\gamma$		$< 6.5 \times 10^{-7}$	CL=90%	2401	DESIG=540
$p\overline{\Sigma}(1385)^-$		$< 2.6 \times 10^{-7}$	CL=90%	2363	DESIG=412
$\Delta(1232)^+\overline{p} + \Delta(1232)^- p$		$< 1.6 \times 10^{-6}$		–	DESIG=595
$\Delta^0\overline{\Lambda}$		$< 9.3 \times 10^{-7}$	CL=90%	2364	DESIG=413
$p\overline{\Lambda}K^-$		$< 8.2 \times 10^{-7}$	CL=90%	2308	DESIG=251
$p\overline{\Lambda}D^-$		$(2.5 \pm 0.4)\times 10^{-5}$		1765	DESIG=546
$p\overline{\Lambda}D^{*-}$		$(3.4 \pm 0.8)\times 10^{-5}$		1685	DESIG=547
$p\overline{\Sigma}^0\pi^-$		$(1.2 \pm 0.4)\times 10^{-6}$		2383	DESIG=252
$\overline{\Lambda}\Lambda$		$< 3.2 \times 10^{-7}$	CL=90%	2393	DESIG=186
$\overline{\Lambda}\Lambda K^0$		$(4.8 ^{+1.0}_{-0.9})\times 10^{-6}$		2250	DESIG=455
$\overline{\Lambda}\Lambda K^{*0}$		$(2.5 ^{+0.9}_{-0.8})\times 10^{-6}$		2098	DESIG=456
$\overline{\Lambda}\Lambda D^0$		$(1.00^{+0.30}_{-0.26})\times 10^{-5}$		1662	DESIG=457
$D^0\Sigma^0\overline{\Lambda}$+ c.c.		$< 3.1 \times 10^{-5}$	CL=90%	1611	DESIG=534
$\Delta^0\overline{\Delta}^0$		$< 1.5 \times 10^{-3}$	CL=90%	2335	DESIG=47
$\Delta^{++}\overline{\Delta}^{--}$		$< 1.1 \times 10^{-4}$	CL=90%	2335	DESIG=48
$\overline{D}^0 p\overline{p}$		$(1.04\pm 0.07)\times 10^{-4}$		1863	DESIG=226
$D_s^-\overline{\Lambda}p$		$(2.8 \pm 0.9)\times 10^{-5}$		1710	DESIG=389
$\overline{D}^*(2007)^0 p\overline{p}$		$(9.9 \pm 1.1)\times 10^{-5}$		1788	DESIG=227
$D^*(2010)^- p\overline{n}$		$(1.4 \pm 0.4)\times 10^{-3}$		1785	DESIG=198
$D^- p\overline{p}\pi^+$		$(3.32\pm 0.31)\times 10^{-4}$		1786	DESIG=362
$D^*(2010)^- p\overline{p}\pi^+$		$(4.7 \pm 0.5)\times 10^{-4}$	S=1.2	1708	DESIG=197
$\overline{D}^0 p\overline{p}\pi^+\pi^-$		$(3.0 \pm 0.5)\times 10^{-4}$		1708	DESIG=509
$\overline{D}^{*0} p\overline{p}\pi^+\pi^-$		$(1.9 \pm 0.5)\times 10^{-4}$		1623	DESIG=510
$\Theta_c\overline{p}\pi^+$, $\Theta_c \to D^- p$		$< 9 \times 10^{-6}$	CL=90%	–	DESIG=364
$\Theta_c\overline{p}\pi^+$, $\Theta_c \to D^{*-} p$		$< 1.4 \times 10^{-5}$	CL=90%	–	DESIG=365
$\overline{\Sigma}_c^{--}\Delta^{++}$		$< 8 \times 10^{-4}$	CL=90%	1839	DESIG=123
$\overline{\Lambda}_c^- p\pi^+\pi^-$		$(1.00\pm 0.14)\times 10^{-3}$	S=1.4	1934	DESIG=161
$\overline{\Lambda}_c^- p$		$(1.51\pm 0.17)\times 10^{-5}$		2021	DESIG=157
$\overline{\Lambda}_c^- p\pi^0$		$(1.52\pm 0.17)\times 10^{-4}$		1982	DESIG=158
$\Sigma_c(2455)^- p$		$< 2.4 \times 10^{-5}$		–	DESIG=487
$\overline{\Lambda}_c^- p\pi^+\pi^-\pi^0$		$< 5.07 \times 10^{-3}$	CL=90%	1883	DESIG=159
$\overline{\Lambda}_c^- p\pi^+\pi^-\pi^+\pi^-$		$< 2.74 \times 10^{-3}$	CL=90%	1821	DESIG=160

$\overline{\Lambda}_c^- p\pi^+\pi^-$ (nonresonant)			$(5.4 \pm 1.0) \times 10^{-4}$	S=1.3	1934	DESIG=360
$\overline{\Sigma}_c(2520)^{--} p\pi^+$			$(1.01 \pm 0.18) \times 10^{-4}$		1860	DESIG=236
$\overline{\Sigma}_c(2520)^0 p\pi^-$			$< 3.1 \times 10^{-5}$	CL=90%	1860	DESIG=238
$\overline{\Sigma}_c(2455)^0 p\pi^-$			$(1.08 \pm 0.09) \times 10^{-4}$		1895	DESIG=223
$\overline{\Sigma}_c(2455)^0 N^0$, $N^0 \to p\pi^-$			$(6.3 \pm 1.6) \times 10^{-5}$		–	DESIG=445
$\overline{\Sigma}_c(2455)^{--} p\pi^+$			$(1.89 \pm 0.15) \times 10^{-4}$		1895	DESIG=224
$\Lambda_c^- pK^+\pi^-$			$(3.4 \pm 0.7) \times 10^{-5}$		1786	DESIG=469
$\overline{\Sigma}_c(2455)^{--} pK^+$, $\overline{\Sigma}_c^{--} \to \overline{\Lambda}_c^-\pi^-$			$(8.7 \pm 2.5) \times 10^{-6}$		1754	DESIG=470
$\Sigma_c(2455)^0 \overline{\Xi}_c^0$			$(4.8 \pm 1.4) \times 10^{-4}$		954	DESIG=658
$\Lambda_c^- pK^*(892)^0$			$< 2.42 \times 10^{-5}$	CL=90%	1647	DESIG=471
$\Lambda_c^- pK^+K^-$			$(2.0 \pm 0.4) \times 10^{-5}$		1588	DESIG=543
$\Lambda_c^- p\phi$			$< 9 \times 10^{-6}$	CL=90%	1567	DESIG=544
$\Lambda_c^- p\overline{p}p$			$< 2.8 \times 10^{-6}$		677	DESIG=529
$\overline{\Lambda}_c^- \Lambda K^+$			$(4.9 \pm 1.1) \times 10^{-5}$		1767	DESIG=493
$\overline{\Lambda}_c^- \Lambda_c^+$			$< 1.6 \times 10^{-5}$	CL=95%	1319	DESIG=417
$\overline{\Lambda}_c(2593)^-$ / $\overline{\Lambda}_c(2625)^- p$			$< 1.1 \times 10^{-4}$	CL=90%	–	DESIG=225
$\overline{\Xi}_c^- \Lambda_c^+$			$(1.1 \pm 0.8) \times 10^{-3}$		1147	DESIG=601
$\overline{\Xi}_c^- \Lambda_c^+$, $\overline{\Xi}_c^- \to \overline{\Xi}^+\pi^-\pi^-$			$(2.3 \pm 1.0) \times 10^{-5}$	S=1.8	1147	DESIG=358
$\overline{\Xi}_c^- \Lambda_c^+$, $\overline{\Xi}_c^- \to \overline{p}K^+\pi^-$			$(5.2 \pm 1.6) \times 10^{-6}$		–	DESIG=602
$\Lambda_c^+ \Lambda_c^- K^0$			$(4.0 \pm 0.9) \times 10^{-4}$		732	DESIG=356
$\overline{\Lambda}_c(2910)^- p$, $\overline{\Lambda}_c^- \to \overline{\Sigma}_c(2455)^{--}\pi^+$			$(1.2 \pm 0.4) \times 10^{-5}$		–	DESIG=621
$\overline{\Lambda}_c(2910)^- p$, $\overline{\Lambda}_c^- \to \overline{\Sigma}_c(2455)^0\pi^-$			$(9 \pm 4) \times 10^{-6}$		–	DESIG=622
$\overline{\Xi}_c(2930)^- \Lambda_c^+$, $\overline{\Xi}_c^- \to \Lambda_c^- K^0$			$(2.4 \pm 0.6) \times 10^{-4}$		–	DESIG=575
$\Omega_c^0 \overline{\Lambda}$, $\Omega_c^0 \to \Omega^-\pi^+$			$< 9.7 \times 10^{-8}$	CL=95%	–	DESIG=643
$\Omega_c(2770)^0 \overline{\Lambda}$, $\Omega_c^0 \to \Omega^-\pi^+$			$< 3.12 \times 10^{-7}$	CL=95%	–	DESIG=644
$\Omega_c^0 \Lambda$, $\Omega_c^0 \to \Omega^-\pi^+$			$< 9.5 \times 10^{-8}$	CL=95%	–	DESIG=645
$\Omega_c(2770)^0 \Lambda$, $\Omega_c^0 \to \Omega^-\pi^+$			$< 1.00 \times 10^{-7}$	CL=95%	–	DESIG=646
$\Lambda\psi_{DS}$		[p]	$< 0.13\text{–}5.2 \times 10^{-5}$		–	DESIG=619;OUR EVAL;→ UNCHECKED ←

Lepton Family number (LF) or Lepton number (L) or Baryon number (B) violating modes, or/and $\Delta B = 1$ weak neutral current ($B1$) modes NODE=S042;CLUMP=G

$\gamma\gamma$	B1		$< 6.4 \times 10^{-8}$	CL=90%	2640	DESIG=141
e^+e^-	B1		$< 2.5 \times 10^{-9}$	CL=90%	2640	DESIG=6
$e^+e^-\gamma$	B1		$< 1.2 \times 10^{-7}$	CL=90%	2640	DESIG=404
$\mu^+\mu^-$	B1		$< 1.5 \times 10^{-10}$	CL=90%	2638	DESIG=7
$\mu^+\mu^-\mu^+\mu^-$	B1		$< 1.8 \times 10^{-10}$	CL=95%	2629	DESIG=521
SP, $S \to \mu^+\mu^-$, $P \to \mu^+\mu^-$	B1	[q]	$< 6.0 \times 10^{-10}$	CL=95%	–	DESIG=522
aa, $a \to \mu^+\mu^-$	B1		$< 2.3 \times 10^{-10}$	CL=95%	–	DESIG=618
$\tau^+\tau^-$	B1		$< 2.1 \times 10^{-3}$	CL=95%	1952	DESIG=336
$\pi^0\ell^+\ell^-$	B1	[a]	$< 3.8 \times 10^{-8}$	CL=90%	2638	DESIG=382
$\pi^0 e^+e^-$	B1		$< 7.9 \times 10^{-8}$	CL=90%	2638	DESIG=380
$\pi^0\mu^+\mu^-$	B1		$< 5.9 \times 10^{-8}$	CL=90%	2634	DESIG=381
$\eta\ell^+\ell^-$	B1	[a]	$< 4.8 \times 10^{-8}$	CL=90%	2611	DESIG=518
ηe^+e^-	B1		$< 1.05 \times 10^{-7}$	CL=90%	2611	DESIG=519
$\eta\mu^+\mu^-$	B1		$< 9.4 \times 10^{-8}$	CL=90%	2607	DESIG=520
$\rho(770)^0 e^+e^-$	B1		$< 4.55 \times 10^{-7}$	CL=90%	–	DESIG=648
ωe^+e^-	B1		$< 3.07 \times 10^{-7}$	CL=90%	2582	DESIG=649
$\omega\mu^+\mu^-$	B1		$< 2.49 \times 10^{-7}$	CL=90%	2577	DESIG=650
$\omega\ell^+\ell^-$	B1		$< 2.20 \times 10^{-7}$	CL=90%	2582	DESIG=651
$\pi^0\nu\overline{\nu}$	B1		$< 9 \times 10^{-6}$	CL=90%	2638	DESIG=406
$K^0\ell^+\ell^-$	B1	[a]	$(3.3 \pm 0.6) \times 10^{-7}$		2616	DESIG=275
$K^0 e^+e^-$	B1		$(2.5\,^{+1.1}_{-0.9}) \times 10^{-7}$	S=1.3	2616	DESIG=18
$K^0\mu^+\mu^-$	B1		$(3.39 \pm 0.35) \times 10^{-7}$	S=1.1	2612	DESIG=17

$K^0 \nu \overline{\nu}$	B1		<	2.6	$\times 10^{-5}$	CL=90%	2616	DESIG=407
$\rho^0 \nu \overline{\nu}$	B1		<	4.0	$\times 10^{-5}$	CL=90%	2583	DESIG=408
$K^*(892)^0 \ell^+ \ell^-$	B1	[a]		$(9.9 {}^{+1.2}_{-1.1})$	$\times 10^{-7}$		2565	DESIG=276
$K^*(892)^0 e^+ e^-$	B1			$(1.03 {}^{+0.19}_{-0.17})$	$\times 10^{-6}$		2565	DESIG=82
$K^*(892)^0 \mu^+ \mu^-$	B1			(9.4 ± 0.5)	$\times 10^{-7}$		2560	DESIG=71
$K^*(892)^0 \tau^+ \tau^-$	B1		<	1.8	$\times 10^{-3}$	CL=90%	1404	DESIG=629
$\overline{D}^0 \mu^+ \mu^-$	B1		<	4.0	$\times 10^{-8}$	CL=90%	2305	DESIG=647
$\pi^+ \pi^- \mu^+ \mu^-$	B1			(2.1 ± 0.5)	$\times 10^{-8}$		2626	DESIG=550
$K^*(892)^0 \nu \overline{\nu}$	B1		<	1.8	$\times 10^{-5}$	CL=90%	2565	DESIG=152
invisible	B1		<	2.4	$\times 10^{-5}$	CL=90%	–	DESIG=284
$\nu \overline{\nu} \gamma$	B1		<	1.6	$\times 10^{-5}$	CL=90%	2640	DESIG=285
$\phi \mu^+ \mu^-$	B1		<	3.2	$\times 10^{-9}$	CL=90%	2537	DESIG=614
$\phi \nu \overline{\nu}$	B1		<	1.27	$\times 10^{-4}$	CL=90%	2541	DESIG=409
$e^\pm \mu^\mp$	LF	[n]	<	1.0	$\times 10^{-9}$	CL=90%	2639	DESIG=8
$\pi^0 e^\pm \mu^\mp$	LF		<	1.4	$\times 10^{-7}$	CL=90%	2637	DESIG=383
$K^0 e^\pm \mu^\mp$	LF		<	3.8	$\times 10^{-8}$	CL=90%	2615	DESIG=221
$K^0_S \tau^+ e^-$			<	1.5	$\times 10^{-5}$	CL=90%	2311	DESIG=654
$K^0_S \tau^- e^+$			<	8	$\times 10^{-6}$	CL=90%	2311	DESIG=655
$K^0_S \tau^+ \mu^-$			<	1.1	$\times 10^{-5}$	CL=90%	2297	DESIG=656
$K^0_S \tau^- \mu^+$			<	3.6	$\times 10^{-5}$	CL=90%	2297	DESIG=657
$K^*(892)^0 e^+ \mu^-$	LF		<	6.8	$\times 10^{-9}$	CL=90%	2563	DESIG=334
$K^*(892)^0 e^- \mu^+$	LF		<	5.7	$\times 10^{-9}$	CL=90%	2563	DESIG=335
$K^*(892)^0 e^\pm \mu^\mp$	LF		<	1.01	$\times 10^{-8}$	CL=90%	2563	DESIG=222
$K^*(892)^0 \tau^+ e^-$			<	4.9	$\times 10^{-6}$	CL=90%	2245	DESIG=652
$K^*(892)^0 \tau^- e^+$			<	5.9	$\times 10^{-6}$	CL=90%	2245	DESIG=653
$K^*(892)^0 \tau^+ \mu^-$	LF		<	1.0	$\times 10^{-5}$	CL=90%	2221	DESIG=627
$K^*(892)^0 \tau^- \mu^+$	LF		<	8.2	$\times 10^{-6}$	CL=90%	2221	DESIG=628
$e^\pm \tau^\mp$	LF	[n]	<	1.6	$\times 10^{-5}$	CL=90%	2341	DESIG=121
$\mu^\pm \tau^\mp$	LF	[n]	<	1.4	$\times 10^{-5}$	CL=95%	2340	DESIG=122
$p \mu^-$	L,B		<	2.6	$\times 10^{-9}$	CL=90%	2555	DESIG=624
$\Lambda_c^+ \mu^-$	L,B		<	1.4	$\times 10^{-6}$	CL=90%	2143	DESIG=491
$\Lambda_c^+ e^-$	L,B		<	4	$\times 10^{-6}$	CL=90%	2145	DESIG=492

$B^\pm/B^0$ ADMIXTURE

NODE=S049

CP violation

CLUMP=E

$A_{CP}(B \to K^*(892)\gamma) = -0.003 \pm 0.011$ NODE=S049CP1;DTYPE=x;CLUMP=E

$A_{CP}(B \to s\gamma) = 0.015 \pm 0.011$ NODE=S049CP2;DTYPE=x;CLUMP=E

$A_{CP}(B \to (s+d)\gamma) = 0.010 \pm 0.031$ NODE=S049CP4;DTYPE=x;CLUMP=E

$A_{CP}(B \to X_s \ell^+ \ell^-) = 0.04 \pm 0.11$ NODE=S049CP3;DTYPE=x;CLUMP=E

$A_{CP}(B \to X_s \ell^+ \ell^-)$ $(1.0 < q^2 < 6.0\ \mathrm{GeV}^2/c^4) = -0.06 \pm 0.22$ NODE=S049CP9;DTYPE=x;CLUMP=E

$A_{CP}(B \to X_s \ell^+ \ell^-)$ $(10.1 < q^2 < 12.9$ or $q^2 > 14.2\ \mathrm{GeV}^2/c^4)$ $= 0.19 \pm 0.18$ NODE=S049CPA;DTYPE=x;CLUMP=E

$A_{CP}(B \to K^* e^+ e^-) = -0.18 \pm 0.15$ NODE=S049CP6;DTYPE=x;CLUMP=E

$A_{CP}(B \to K^* \mu^+ \mu^-) = -0.03 \pm 0.13$ NODE=S049CP7;DTYPE=x;CLUMP=E

$A_{CP}(B \to K^* \ell^+ \ell^-) = -0.04 \pm 0.07$ NODE=S049CP5;DTYPE=x;CLUMP=E

$A_{CP}(B \to \eta\,\text{anything}) = -0.13^{+0.04}_{-0.05}$ NODE=S049CP8;DTYPE=x;CLUMP=E

$\Delta A_{CP}(X_s \gamma) = A_{CP}(B^\pm \to X_s \gamma) - A_{CP}(B^0 \to X_s \gamma) = 0.041 \pm 0.023$ NODE=S049DA1;DTYPE=x;CLUMP=E

$\overline{A}_{CP}(B \to X_s \gamma) = (A_{CP}(B^+ \to X_s \gamma) + A_{CP}(B^0 \to X_s \gamma))/2 = 0.009 \pm 0.012$ NODE=S049A06;DTYPE=x;CLUMP=E

$\Delta A_{CP}(B \to K^* \gamma) = A_{CP}(B^+ \to K^{*+} \gamma) - A_{CP}(B^0 \to K^{*0} \gamma) = 0.025 \pm 0.023$ NODE=S049A02;DTYPE=x;CLUMP=E

$\overline{A}_{CP}(B \to K^* \gamma) = (A_{CP}(B^+ \to K^{*+} \gamma) + A_{CP}(B^0 \to K^{*0} \gamma))/2 = -0.009 \pm 0.011$ NODE=S049A03;DTYPE=x;CLUMP=E

NODE=S049210;NODE=S049

The branching fraction measurements are for an admixture of B mesons at the $\Upsilon(4S)$. The values quoted assume that $B(\Upsilon(4S) \to B\overline{B}) = 100\%$.

For inclusive branching fractions, *e.g.*, $B \to D^{\pm}$ *anything*, the treatment of multiple D's in the final state must be defined. One possibility would be to count the number of events with one-or-more D's and divide by the total number of B's. Another possibility would be to count the total number of D's and divide by the total number of B's, which is the definition of average multiplicity. The two definitions are identical if only one D is allowed in the final state. Even though the "one-or-more" definition seems sensible, for practical reasons inclusive branching fractions are almost always measured using the multiplicity definition. For heavy final state particles, authors call their results inclusive branching fractions while for light particles some authors call their results multiplicities. In the B sections, we list all results as inclusive branching fractions, adopting a multiplicity definition. This means that inclusive branching fractions can exceed 100% and that inclusive partial widths can exceed total widths, just as inclusive cross sections can exceed total cross section.

$\overline{B}$ modes are charge conjugates of the modes below. Reactions indicate the weak decay vertex and do not include mixing.

***B* DECAY MODES**		Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)	
Semileptonic and leptonic modes					NODE=S049;CLUMP=L
$\ell^+ \nu_\ell$ anything	[a,r]	(10.82 ± 0.15) %		–	DESIG=131
$D^- \ell^+ \nu_\ell$ anything	[a]	(2.6 ± 0.5) %		–	DESIG=148
$\overline{D}^0 \ell^+ \nu_\ell$ anything	[a]	(7.2 ± 1.5) %		–	DESIG=147
$\overline{D} \ell^+ \nu_\ell$		(2.41 ± 0.12) %		2311	DESIG=274
$\overline{D} e^+ \nu_e$		seen		2311	DESIG=300;OUR EVAL;→ UNCHECKED ←
$\overline{D} \mu^+ \nu_\mu$		seen		2309	DESIG=301;OUR EVAL;→ UNCHECKED ←
$D^{*-} \ell^+ \nu_\ell$ anything	[s]	(6.7 ± 1.3) $\times 10^{-3}$		–	DESIG=182
$\overline{D}^* \ell^+ \nu_\ell$	[t]	(4.95 ± 0.11) %		2257	DESIG=280;OUR EVAL;→ UNCHECKED ←
$\overline{D}^{**} \ell^+ \nu_\ell$	[a,u]	(2.7 ± 0.7) %		–	DESIG=217
$\overline{D}_1(2420) \ell^+ \nu_\ell$ anything		(3.8 ± 1.3) $\times 10^{-3}$	S=2.4	–	DESIG=11
$\overline{D} \pi \ell^+ \nu_\ell$ anything + $\overline{D}^* \pi \ell^+ \nu_\ell$ anything		(2.6 ± 0.5) %	S=1.5	–	DESIG=34
$\overline{D} \pi \ell^+ \nu_\ell$ anything		(1.5 ± 0.6) %		–	DESIG=232
$\overline{D}^* \pi \ell^+ \nu_\ell$ anything		(1.9 ± 0.4) %		–	DESIG=233
$\overline{D}_2^*(2460) \ell^+ \nu_\ell$ anything		(4.4 ± 1.6) $\times 10^{-3}$		–	DESIG=12
$D^{*-} \pi^+ \ell^+ \nu_\ell$ anything		(1.00 ± 0.34) %		–	DESIG=13
$\overline{D} \pi^+ \pi^- \ell^+ \nu_\ell$		(1.62 ± 0.32) $\times 10^{-3}$		2301	DESIG=285
$\overline{D}^* \pi^+ \pi^- \ell^+ \nu_\ell$		(9.4 ± 3.2) $\times 10^{-4}$		2247	DESIG=286
$D_s^- \ell^+ \nu_\ell$ anything	[a]	< 7 $\times 10^{-3}$	CL=90%	–	DESIG=36
$D_s^- \ell^+ \nu_\ell K^+$ anything	[a]	< 5 $\times 10^{-3}$	CL=90%	–	DESIG=37
$D_s^- \ell^+ \nu_\ell K^0$ anything	[a]	< 7 $\times 10^{-3}$	CL=90%	–	DESIG=38
$X_c \ell^+ \nu_\ell$		(10.63 ± 0.15) %		–	DESIG=260
$X_u \ell^+ \nu_\ell$		(1.88 ± 0.27) $\times 10^{-3}$		–	DESIG=259
$X_u e^+ \nu_e$		(1.57 ± 0.19) $\times 10^{-3}$		–	DESIG=295
$X_u \mu^+ \nu_\mu$		(1.62 ± 0.21) $\times 10^{-3}$		–	DESIG=296
$K^+ \ell^+ \nu_\ell$ anything	[a]	(6.3 ± 0.5) %		–	DESIG=117
$K^- \ell^+ \nu_\ell$ anything	[a]	(10 ± 4) $\times 10^{-3}$		–	DESIG=118
$K^0 / \overline{K}^0 \ell^+ \nu_\ell$ anything	[a]	(4.6 ± 0.5) %		–	DESIG=119
$\overline{D} \tau^+ \nu_\tau$		(8.4 ± 0.7) $\times 10^{-3}$		1911	DESIG=267
$\overline{D}^* \tau^+ \nu_\tau$		(1.43 ± 0.07) %		1838	DESIG=268

D, D^*, or D_s modes

NODE=S049;CLUMP=M

$D^{\pm}$ anything		(23.3 $\pm$ 1.2) %		–	DESIG=116
$D^0 / \overline{D}^0$ anything		(64.6 $\pm$ 2.0) %	S=1.5	–	DESIG=107
$D^*(2010)^{\pm}$ anything		(22.5 $\pm$ 1.5) %		–	DESIG=111
$\overline{D}^*(2007)^0$ anything		(26.0 $\pm$ 2.7) %		–	DESIG=35
$D_s^{\pm}$ anything	[n]	(10.6 $\pm$ 0.6) %	S=1.7	–	DESIG=113
$D_s^{*\pm}$ anything		(6.3 $\pm$ 1.0) %		–	DESIG=57
$D_s^{*\pm} \overline{D}^{(*)}$		(3.4 $\pm$ 0.6) %		–	DESIG=58
$\overline{D} D_{s0}(2317)$		seen		1605	DESIG=248;OUR EVAL;→ UNCHECKED ←
$\overline{D} D_{sJ}(2457)$		seen		–	DESIG=249;OUR EVAL;→ UNCHECKED ←
$D^{(*)} \overline{D}^{(*)} K^0$ + $D^{(*)} \overline{D}^{(*)} K^{\pm}$	[n,v]	(7.1 $^{+2.7}_{-1.7}$) %		–	DESIG=51
$b \to c \overline{c} s$		(22 $\pm$ 4) %		–	DESIG=31
$D_s^{(*)} \overline{D}^{(*)}$	[n,v]	(5.0 $\pm$ 0.4) %		–	DESIG=52
$D^* D^*(2010)^{\pm}$	[n]	< 5.9 $\times 10^{-3}$	CL=90%	1711	DESIG=54
$D D^*(2010)^{\pm}$ + $D^* D^{\pm}$	[n]	< 5.5 $\times 10^{-3}$	CL=90%	–	DESIG=55
$D D^{\pm}$	[n]	< 3.1 $\times 10^{-3}$	CL=90%	1866	DESIG=56
$D_s^{(*)\pm} \overline{D}^{(*)} X(n\pi^{\pm})$	[n,v]	(9 $^{+5}_{-4}$) %		–	DESIG=53
$\overline{D}^*(2010)\gamma$		< 1.1 $\times 10^{-3}$	CL=90%	2257	DESIG=180
$D_s^+ \pi^-$, $D_s^{*+} \pi^-$, $D_s^+ \rho^-$, $D_s^{*+} \rho^-$, $D_s^+ \pi^0$, $D_s^{*+} \pi^0$, $D_s^+ \eta$, $D_s^{*+} \eta$, $D_s^+ \rho^0$, $D_s^{*+} \rho^0$, $D_s^+ \omega$, $D_s^{*+} \omega$	[n]	< 4 $\times 10^{-4}$	CL=90%	–	DESIG=210
$D_{s1}(2536)^+$ anything		< 9.5 $\times 10^{-3}$	CL=90%	–	DESIG=32

Charmonium modes

NODE=S049;CLUMP=N

$J/\psi(1S)$ anything		(1.094 $\pm$ 0.032) %	S=1.1	–	DESIG=106
$J/\psi(1S)$ (direct) anything		(7.8 $\pm$ 0.4) $\times 10^{-3}$	S=1.1	–	DESIG=23
$\psi(2S)$ anything		(3.07 $\pm$ 0.21) $\times 10^{-3}$		–	DESIG=124
$\chi_{c1}(1P)$ anything		(3.55 $\pm$ 0.27) $\times 10^{-3}$	S=1.3	–	DESIG=170
$\chi_{c1}(1P)$ (direct) anything		(3.09 $\pm$ 0.19) $\times 10^{-3}$		–	DESIG=24
$\chi_{c2}(1P)$ anything		(10.0 $\pm$ 1.7) $\times 10^{-4}$	S=1.6	–	DESIG=21
$\chi_{c2}(1P)$ (direct) anything		(7.5 $\pm$ 1.1) $\times 10^{-4}$		–	DESIG=247
$\eta_c(1S)$ anything		< 9 $\times 10^{-3}$	CL=90%	–	DESIG=22
$K \chi_{c1}(3872)$		(1.9 $\pm$ 0.7) $\times 10^{-4}$		1141	DESIG=292
$K X(3940)$, $X \to D^{*0} D^0$		< 6.7 $\times 10^{-5}$	CL=90%	1084	DESIG=273
$K \chi_{c0}(3915)$, $\chi_{c0} \to \omega J/\psi$	[x]	(7.1 $\pm$ 3.4) $\times 10^{-5}$		1103	DESIG=262

K or K^* modes

NODE=S049;CLUMP=O

$K^{\pm}$ anything	[n]	(78.9 $\pm$ 2.5) %		–	DESIG=105
K^+ anything		(66 $\pm$ 5) %		–	DESIG=120
K^- anything		(13 $\pm$ 4) %		–	DESIG=121
$K^0 / \overline{K}^0$ anything	[n]	(64 $\pm$ 4) %		–	DESIG=122
$K^*(892)^{\pm}$ anything		(18 $\pm$ 6) %		–	DESIG=223
$K^*(892)^0 / \overline{K}^*(892)^0$ anything	[n]	(14.6 $\pm$ 2.6) %		–	DESIG=224
$K^*(892)\gamma$		(4.10 $\pm$ 0.12) $\times 10^{-5}$		2565	DESIG=126
$\eta K \gamma$		(8.5 $^{+1.8}_{-1.6}$) $\times 10^{-6}$		2588	DESIG=263
$K_1(1400)\gamma$		< 1.27 $\times 10^{-4}$	CL=90%	2454	DESIG=127
$K_2^*(1430)\gamma$		(1.7 $^{+0.6}_{-0.5}$) $\times 10^{-5}$		2447	DESIG=128
$K_2(1770)\gamma$		< 1.2 $\times 10^{-3}$	CL=90%	2342	DESIG=179
$K_3^*(1780)\gamma$		< 3.7 $\times 10^{-5}$	CL=90%	2340	DESIG=129
$K_4^*(2045)\gamma$		< 1.0 $\times 10^{-3}$	CL=90%	2243	DESIG=178
$K \eta'(958)$		(8.3 $\pm$ 1.1) $\times 10^{-5}$		2528	DESIG=226
$K^*(892)\eta'(958)$		(4.1 $\pm$ 1.1) $\times 10^{-6}$		2472	DESIG=227
$K \eta$		< 5.2 $\times 10^{-6}$	CL=90%	2588	DESIG=228
$K^*(892)\eta$		(1.8 $\pm$ 0.5) $\times 10^{-5}$		2534	DESIG=229
$K \phi \phi$		(2.3 $\pm$ 0.9) $\times 10^{-6}$		2306	DESIG=250
$\overline{b} \to \overline{s} \gamma$		(3.49 $\pm$ 0.19) $\times 10^{-4}$		–	DESIG=225
$\overline{b} \to \overline{d} \gamma$		(9.2 $\pm$ 3.0) $\times 10^{-6}$		–	DESIG=270
$\overline{b} \to \overline{s}$ gluon		< 6.8 %	CL=90%	–	DESIG=20
η anything		(2.6 $^{+0.5}_{-0.8}$) $\times 10^{-4}$		–	DESIG=47
η' anything		(4.2 $\pm$ 0.9) $\times 10^{-4}$		–	DESIG=48
K^+ gluon (charmless)		< 1.87 $\times 10^{-4}$	CL=90%	–	DESIG=276
K^0 gluon (charmless)		(1.9 $\pm$ 0.7) $\times 10^{-4}$		–	DESIG=277

Light unflavored meson modes

NODE=S049;CLUMP=P

$\rho\gamma$		$(1.39 \pm 0.25) \times 10^{-6}$	S=1.2	2583	DESIG=230
$\rho/\omega\gamma$		$(1.30 \pm 0.23) \times 10^{-6}$	S=1.2	–	DESIG=261
$\pi^{\pm}$ anything	[n,y]	(358 ± 7) %		–	DESIG=220
π^0 anything		(235 ± 11) %		–	DESIG=240
η anything		(17.6 ± 1.6) %		–	DESIG=39
ρ^0 anything		(21 ± 5) %		–	DESIG=221
ω anything		< 81 %	CL=90%	–	DESIG=222
ϕ anything		(3.43 ± 0.12) %		–	DESIG=114
$\phi K^*(892)$		$< 2.2 \times 10^{-5}$	CL=90%	2460	DESIG=46
π^+ gluon (charmless)		$(3.7 \pm 0.8) \times 10^{-4}$		–	DESIG=279

Baryon modes

NODE=S049;CLUMP=Q

Λ_c^+ / $\overline{\Lambda}_c^-$ anything		(3.53 ± 0.34) %		–	DESIG=115
Λ_c^+ anything		< 1.3 %	CL=90%	–	DESIG=40
$\overline{\Lambda}_c^-$ anything		< 7 %	CL=90%	–	DESIG=41
$\overline{\Lambda}_c^- \ell^+$ anything		$< 9 \times 10^{-4}$	CL=90%	–	DESIG=281
$\overline{\Lambda}_c^- e^+$ anything		$< 1.8 \times 10^{-3}$	CL=90%	–	DESIG=14
$\overline{\Lambda}_c^- \mu^+$ anything		$< -\ 1.4 \times 10^{-3}$	CL=90%	–	DESIG=282
$\overline{\Lambda}_c^- p$ anything		(2.01 ± 0.31) %		–	DESIG=16
$\overline{\Lambda}_c^- p e^+ \nu_e$		$< 8 \times 10^{-4}$	CL=90%	2021	DESIG=17
$\overline{\Sigma}_c^{--}$ anything		$(3.3 \pm 1.7) \times 10^{-3}$		–	DESIG=201
$\overline{\Sigma}_c^{-}$ anything		$< 8 \times 10^{-3}$	CL=90%	–	DESIG=202
$\overline{\Sigma}_c^{0}$ anything		$(3.6 \pm 1.7) \times 10^{-3}$		–	DESIG=203
$\overline{\Sigma}_c^{0} N (N = p$ or $n)$		$< 1.1 \times 10^{-3}$	CL=90%	1938	DESIG=205
Ξ_c^0 anything, $\Xi_c^0 \to \Xi^- \pi^+$		$(1.93 \pm 0.30) \times 10^{-4}$	S=1.1	–	DESIG=44
Ξ_c^+, $\Xi_c^+ \to \Xi^- \pi^+ \pi^+$		$(4.5 {}^{+1.3}_{-1.2}) \times 10^{-4}$		–	DESIG=45
$p/\overline{p}$ anything	[n]	(8.0 ± 0.4) %		–	DESIG=108
$p/\overline{p}$ (direct) anything	[n]	(5.5 ± 0.5) %		–	DESIG=132
$\overline{p} e^+ \nu_e$ anything		$< 5.9 \times 10^{-4}$	CL=90%	–	DESIG=140
$\Lambda/\overline{\Lambda}$ anything	[n]	(4.0 ± 0.5) %		–	DESIG=109
Λ anything		seen		–	DESIG=42;OUR EVAL;→ UNCHECKED ←
$\overline{\Lambda}$ anything		seen		–	DESIG=43;OUR EVAL;→ UNCHECKED ←
$\Xi^-/\overline{\Xi}^+$ anything	[n]	$(2.7 \pm 0.6) \times 10^{-3}$		–	DESIG=133
baryons anything		(6.8 ± 0.6) %		–	DESIG=134
$p\overline{p}$ anything		(2.47 ± 0.23) %		–	DESIG=135
$\Lambda\overline{p}/\overline{\Lambda}p$ anything	[n]	(2.5 ± 0.4) %		–	DESIG=136
$\Lambda\overline{\Lambda}$ anything		$< 5 \times 10^{-3}$	CL=90%	–	DESIG=137

Lepton Family number (*LF*) violating modes or $\Delta B = 1$ weak neutral current (*B1*) modes

NODE=S049;CLUMP=R

$s e^+ e^-$	*B1*		$(6.7 \pm 1.7) \times 10^{-6}$	S=2.0	–	DESIG=103
$s \mu^+ \mu^-$	*B1*		$(4.3 \pm 1.0) \times 10^{-6}$		–	DESIG=104
$s \ell^+ \ell^-$	*B1*	[a]	$(5.8 \pm 1.3) \times 10^{-6}$	S=1.8	–	DESIG=59
$\pi \ell^+ \ell^-$	*B1*		$< 5.9 \times 10^{-8}$	CL=90%	2638	DESIG=266
$\pi e^+ e^-$	*B1*		$< 1.10 \times 10^{-7}$	CL=90%	2638	DESIG=283
$\pi \mu^+ \mu^-$	*B1*		$< 5.0 \times 10^{-8}$	CL=90%	2634	DESIG=284
$K e^+ e^-$	*B1*		$(4.4 \pm 0.6) \times 10^{-7}$		2617	DESIG=234
$K^*(892) e^+ e^-$	*B1*		$(1.19 \pm 0.20) \times 10^{-6}$	S=1.2	2565	DESIG=235
$K \mu^+ \mu^-$	*B1*		$(4.4 \pm 0.4) \times 10^{-7}$		2612	DESIG=236
$K^*(892) \mu^+ \mu^-$	*B1*		$(1.06 \pm 0.09) \times 10^{-6}$		2560	DESIG=237
$K \ell^+ \ell^-$	*B1*		$(4.8 \pm 0.4) \times 10^{-7}$		2617	DESIG=238
$K^*(892) \ell^+ \ell^-$	*B1*		$(1.05 \pm 0.10) \times 10^{-6}$		2565	DESIG=239
$K \nu \overline{\nu}$	*B1*		$< 1.6 \times 10^{-5}$	CL=90%	2617	DESIG=275
$K^* \nu \overline{\nu}$	*B1*		$< 2.7 \times 10^{-5}$	CL=90%	–	DESIG=269
$\pi \nu \overline{\nu}$	*B1*		$< 8 \times 10^{-6}$	CL=90%	2638	DESIG=287
$\rho \nu \overline{\nu}$	*B1*		$< 2.8 \times 10^{-5}$	CL=90%	2583	DESIG=288
$s e^{\pm} \mu^{\mp}$	*LF*	[n]	$< 2.2 \times 10^{-5}$	CL=90%	–	DESIG=33
$\pi e^{\pm} \mu^{\mp}$	*LF*		$< 9.2 \times 10^{-8}$	CL=90%	2637	DESIG=243
$\rho e^{\pm} \mu^{\mp}$	*LF*		$< 3.2 \times 10^{-6}$	CL=90%	2582	DESIG=244
$K e^{\pm} \mu^{\mp}$	*LF*		$< 3.8 \times 10^{-8}$	CL=90%	2616	DESIG=241
$K^*(892) e^{\pm} \mu^{\mp}$	*LF*		$< 5.1 \times 10^{-7}$	CL=90%	2563	DESIG=242

$B^{\pm}/B^0/B_s^0/b$-baryon ADMIXTURE

NODE=S051

These measurements are for an admixture of bottom particles at high energy (LHC, LEP, Tevatron, S$p\overline{p}$S).

Mean life $\tau = (1.5673 \pm 0.0029) \times 10^{-12}$ s

NODE=S051T;DTYPE=T;CLUMP=T;OUR EVAL;→ UNCHECKED ←

Mean life $\tau = (1.72 \pm 0.10) \times 10^{-12}$ s Charged b-hadron admixture

NODE=S051T1;DTYPE=T;CLUMP=T

Mean life $\tau = (1.58 \pm 0.14) \times 10^{-12}$ s Neutral b-hadron admixture

NODE=S051T2;DTYPE=T;CLUMP=T

$\tau_{\text{charged } b-\text{hadron}}/\tau_{\text{neutral } b-\text{hadron}} = 1.09 \pm 0.13$

NODE=S051DT;DTYPE=y;CLUMP=T

$\left|\Delta\tau_b\right|/\tau_{b,\overline{b}} = -0.001 \pm 0.014$

NODE=S051DTB;DTYPE=y;CLUMP=T

The branching fraction measurements are for an admixture of B mesons and baryons at energies above the $\Upsilon(4S)$. Only the highest energy results (LHC, LEP, Tevatron, S$p\overline{p}$S) are used in the branching fraction averages. In the following, the production fractions are provided separately at three different colliders (LEP, $p\overline{p}$ Tevatron, and pp LHC) and are used for the subsequent measurements accordingly.

NODE=S051210;NODE=S051

For inclusive branching fractions, *e.g.*, $B \to D^{\pm}$ anything, the values usually are multiplicities, not branching fractions. They can be greater than one.

The modes below are listed for a $\overline{b}$ initial state. b modes are their charge conjugates. Reactions indicate the weak decay vertex and do not include mixing.

$\overline{b}$ DECAY MODES	Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)

PRODUCTION FRACTIONS

NODE=S051;CLUMP=P

The production fractions for weakly decaying b-hadrons at high energy have been calculated from the best values of mean lives, mixing parameters, and branching fractions in this edition by the Heavy Flavor Averaging Group (HFLAV) as described in the note "B^0-$\overline{B}^0$ Mixing" in the B^0 Particle Listings. We no longer provide world averages of the b-hadron production fractions, where results from LEP, Tevatron and LHC are averaged together; indeed the available data (from CDF and LHCb) shows that the fractions depend on the kinematics (in particular the p_T) of the produced b hadron. Hence, we would like to list the fractions at LEP Z decays, at $p\overline{p}$ collision at the Tevatron, and at pp collision at LHC, separately, when they are available.

NODE=S051

Values assume:

$B(\overline{b} \to B^+) = B(\overline{b} \to B^0)$

$B(\overline{b} \to B^+) + B(\overline{b} \to B^0) + B(\overline{b} \to B_s^0) + B(b \to b\text{-baryon}) = 100\%$.

The notation for production fractions varies in the literature (f_d, d_{B^0}, $f(b \to \overline{B}^0)$, $\text{Br}(b \to \overline{B}^0)$). We use our own branching fraction notation here, $B(\overline{b} \to B^0 \text{ at } Z)$ at LEP, $B(\overline{b} \to B^0 \text{ at } p\overline{p})$ at Tevatron, $B(\overline{b} \to B^0 \text{ at } pp)$ at LHC. The $B(\overline{b} \to B_c^+)$ is a placeholder for the future measurements, and is negligible in the $\overline{b}$-production fractions.

Note these production fractions are b-hadronization fractions, not the conventional branching fractions of b-quark to a B-hadron, which may have considerable dependence on the initial and final state kinematic and production environment.

Production fractions at Z

The correlation coefficients between the reported production fractions are:

cor(B_s^0 at Z, b-baryon at Z) = 0.064

cor(B_s^0 at Z, $B^{\pm}$=B^0 at Z) = −0.633

cor(b-baryon at Z, $B^{\pm}$=B^0 at Z) = −0.813.

Mode	Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)	
B^+ at Z	(40.8 ± 0.7) %		–	DESIG=1;OUR EVAL;→ UNCHECKED ←
B^0 at Z	(40.8 ± 0.7) %		–	DESIG=2;OUR EVAL;→ UNCHECKED ←
B_s^0 at Z	(10.0 ± 0.8) %		–	DESIG=3;OUR EVAL;→ UNCHECKED ←
b-baryon at Z	(8.4 ± 1.1) %		–	DESIG=4;OUR EVAL;→ UNCHECKED ←

Production fractions at $p\overline{p}$

NODE=S051;CLUMP=Q

The correlation coefficients between the reported production fractions are:
$cor(B^0_s$ at $p\overline{p}$, b-baryon at $p\overline{p}) = -0.429$
$cor(B^0_s$ at $p\overline{p}$, $B^{\pm}{=}B^0$ at $p\overline{p}) = +0.159$
$cor(b$-baryon at $p\overline{p}$, $B^{\pm}{=}B^0$ at $p\overline{p}) = -0.960$.
as obtained with the Tevatron average of time-integrated mixing parameter $\overline{\chi} = 0.147 \pm 0.011$.

NODE=S051

B^+ at $p\overline{p}$		(34.4 ± 2.1) %		–	DESIG=70;OUR EVAL;→ UNCHECKED ←
B^0 at $p\overline{p}$		(34.4 ± 2.1) %		–	DESIG=71;OUR EVAL;→ UNCHECKED ←
B^0_s at $p\overline{p}$		(11.5 ± 1.3) %		–	DESIG=72;OUR EVAL;→ UNCHECKED ←
b-baryon at $p\overline{p}$		(19.8 ± 4.6) %		–	DESIG=74;OUR EVAL;→ UNCHECKED ←

Production fractions at pp

NODE=S051;CLUMP=U

B^+ at pp		(36.0 ± 0.5) %		–	DESIG=80
B^0 at pp		(36.0 ± 0.5) %		–	DESIG=81
B^0_s at pp		(9.04 ± 0.25) %		–	DESIG=82
b-baryon at pp		(18.7 ± 1.1) %		–	DESIG=84
B^+_c at pp		$(2.7 \pm 0.5) \times 10^{-3}$		–	DESIG=83

DECAY MODES

NODE=S051;CLUMP=L

Semileptonic and leptonic modes

ν anything		(23.1 ± 1.5) %		–	DESIG=23
$\ell^+ \nu_\ell$ anything	[a]	(10.69 ± 0.22) %		–	DESIG=131
$e^+ \nu_e$ anything		(10.86 ± 0.35) %		–	DESIG=100
$\mu^+ \nu_\mu$ anything		$(10.95 {+0.29 \atop -0.25})$ %		–	DESIG=102
$D^- \ell^+ \nu_\ell$ anything	[a]	(2.2 ± 0.4) %	S=1.8	–	DESIG=15
$D^- \pi^+ \ell^+ \nu_\ell$ anything		$(4.9 \pm 1.9) \times 10^{-3}$		–	DESIG=58
$D^- \pi^- \ell^+ \nu_\ell$ anything		$(2.6 \pm 1.6) \times 10^{-3}$		–	DESIG=61
$\overline{D}^0 \ell^+ \nu_\ell$ anything	[a]	(6.80 ± 0.34) %		–	DESIG=16
$\overline{D}^0 \pi^- \ell^+ \nu_\ell$ anything		(1.07 ± 0.27) %		–	DESIG=57
$\overline{D}^0 \pi^+ \ell^+ \nu_\ell$ anything		$(2.3 \pm 1.6) \times 10^{-3}$		–	DESIG=60
$D^{*-} \ell^+ \nu_\ell$ anything	[a]	(2.75 ± 0.19) %		–	DESIG=17
$D^{*-} \pi^- \ell^+ \nu_\ell$ anything		$(6 \pm 7) \times 10^{-4}$		–	DESIG=62
$D^{*-} \pi^+ \ell^+ \nu_\ell$ anything		$(4.8 \pm 1.0) \times 10^{-3}$		–	DESIG=59
$\overline{D}^0_j \ell^+ \nu_\ell$ anything $\times$ B$(\overline{D}^0_j \to D^{*+} \pi^-)$	[a,z]	$(2.6 \pm 0.9) \times 10^{-3}$		–	DESIG=18
$D^-_j \ell^+ \nu_\ell$ anything $\times$ B$(D^-_j \to D^0 \pi^-)$	[a,z]	$(7.0 \pm 2.3) \times 10^{-3}$		–	DESIG=19
$\overline{D}^*_2(2460)^0 \ell^+ \nu_\ell$ anything $\times$ B$(\overline{D}^*_2(2460)^0 \to D^{*-} \pi^+)$		$< 1.4 \times 10^{-3}$	CL=90%	–	DESIG=21
$D^*_2(2460)^- \ell^+ \nu_\ell$ anything $\times$ B$(D^*_2(2460)^- \to D^0 \pi^-)$		$(4.2 {+1.5 \atop -1.8}) \times 10^{-3}$		–	DESIG=22
$\overline{D}^*_2(2460)^0 \ell^+ \nu_\ell$ anything $\times$ B$(\overline{D}^*_2(2460)^0 \to D^- \pi^+)$		$(1.6 \pm 0.8) \times 10^{-3}$		–	DESIG=220
charmless $\ell \overline{\nu}_\ell$	[a]	$(1.7 \pm 0.5) \times 10^{-3}$		–	DESIG=31
$\tau^+ \nu_\tau$ anything		(2.41 ± 0.23) %		–	DESIG=172
$D^{*-} \tau \nu_\tau$ anything		$(9 \pm 4) \times 10^{-3}$		–	DESIG=64
$\overline{c} \to \ell^- \overline{\nu}_\ell$ anything	[a]	(8.02 ± 0.19) %		–	DESIG=219
$c \to \ell^+ \nu$ anything		$(1.6 {+0.4 \atop -0.5})$ %		–	DESIG=66

Charmed meson and baryon modes

NODE=S051;CLUMP=M

$\overline{D}^0$ anything		(58.9 ± 2.8) %		–	DESIG=24
$D^0 D_s^{\pm}$ anything	[n]	$(9.1 {}^{+4.0}_{-2.8})$ %		–	DESIG=50
$D^{\mp} D_s^{\pm}$ anything	[n]	$(4.0 {}^{+2.3}_{-1.8})$ %		–	DESIG=51
$\overline{D}^0 D^0$ anything	[n]	$(5.1 {}^{+2.0}_{-1.8})$ %		–	DESIG=47
$D^0 D^{\pm}$ anything	[n]	$(2.7 {}^{+1.8}_{-1.6})$ %		–	DESIG=48
$D^{\pm} D^{\mp}$ anything	[n]	$< 9 \times 10^{-3}$	CL=90%	–	DESIG=49
D^- anything		(22.9 ± 1.6) %		–	DESIG=25
$D^*(2010)^+$ anything		(17.3 ± 2.0) %		–	DESIG=46
$D_1(2420)^0$ anything		(5.0 ± 1.5) %		–	DESIG=42
$D^*(2010)^{\mp} D_s^{\pm}$ anything	[n]	$(3.3 {}^{+1.6}_{-1.3})$ %		–	DESIG=52
$D^0 D^*(2010)^{\pm}$ anything	[n]	$(3.0 {}^{+1.1}_{-0.9})$ %		–	DESIG=53
$D^*(2010)^{\pm} D^{\mp}$ anything	[n]	$(2.5 {}^{+1.2}_{-1.0})$ %		–	DESIG=54
$D^*(2010)^{\pm} D^*(2010)^{\mp}$ anything	[n]	(1.2 ± 0.4) %		–	DESIG=55
$\overline{D} D$ anything		$(10 {}^{+11}_{-10})$ %		–	DESIG=68
$D_2^*(2460)^0$ anything		(4.7 ± 2.7) %		–	DESIG=43
D_s^- anything		(14.7 ± 2.1) %		–	DESIG=26
D_s^+ anything		(10.1 ± 3.1) %		–	DESIG=34
Λ_c^+ anything		(7.6 ± 1.1) %		–	DESIG=27
$\overline{c}/c$ anything	[y]	(116.2 ± 3.2) %		–	DESIG=28

Charmonium modes

NODE=S051;CLUMP=N

$J/\psi(1S)$ anything		(1.16 ± 0.10) %		–	DESIG=106
$\psi(2S)$ anything		$(3.06 \pm 0.30) \times 10^{-3}$		–	DESIG=124
$\chi_{c0}(1P)$ anything		$(2.9 \pm 0.6) \times 10^{-3}$		–	DESIG=221
$\chi_{c1}(1P)$ anything		$(5.6 \pm 1.5) \times 10^{-3}$	S=1.3	–	DESIG=170
$\chi_{c2}(1P)$ anything		$(1.4 \pm 1.0) \times 10^{-3}$		–	DESIG=222
$\chi_c(2P)$ anything, $\chi_c \to \phi\phi$		$< 2.8 \times 10^{-7}$	CL=95%	–	DESIG=231
$\eta_c(1S)$ anything		$(5.7 \pm 0.7) \times 10^{-3}$		–	DESIG=223
$\eta_c(2S)$ anything, $\eta_c \to \phi\phi$		$(3.3 \pm 1.4) \times 10^{-7}$		–	DESIG=228
$\chi_{c1}(3872)$ anything, $\chi_{c1} \to \phi\phi$		$< 4.5 \times 10^{-7}$	CL=95%	–	DESIG=229
$\chi_{c0}(3915)$ anything, $\chi_{c0} \to \phi\phi$		$< 3.1 \times 10^{-7}$	CL=95%	–	DESIG=230

K or *K** modes

NODE=S051;CLUMP=O

$\overline{s}\gamma$		$(3.1 \pm 1.1) \times 10^{-4}$		–	DESIG=185
$\overline{s}\overline{\nu}\nu$	B1	$< 6.4 \times 10^{-4}$	CL=90%	–	DESIG=65
$K^{\pm}$ anything		(74 ± 6) %		–	DESIG=10
K_S^0 anything		(29.0 ± 2.9) %		–	DESIG=11

Pion modes

NODE=S051;CLUMP=C

$\pi^{\pm}$ anything		(397 ± 21) %		–	DESIG=44
π^0 anything	[y]	(280 ± 60) %		–	DESIG=5
ϕ anything		(2.82 ± 0.23) %		–	DESIG=56

Baryon modes

NODE=S051;CLUMP=A

$p/\overline{p}$ anything		(13.1 ± 1.1) %		–	DESIG=12
$\Lambda/\overline{\Lambda}$ anything		(5.9 ± 0.6) %		–	DESIG=13
b-baryon anything		(10.2 ± 2.8) %		–	DESIG=45

Other modes

NODE=S051;CLUMP=B

charged anything	[y]	(497 ± 7) %		–	DESIG=14
hadron$^+$ hadron$^-$		$(1.7 {}^{+1.0}_{-0.7}) \times 10^{-5}$		–	DESIG=29
charmless		$(7 \pm 21) \times 10^{-3}$		–	DESIG=7

$\Delta B = 1$ weak neutral current ($B1$) modes NODE=S051;CLUMP=R

$\mu^+ \mu^-$ anything	$B1$	< 3.2	$\times 10^{-4}$ CL=90%	–

DESIG=104

B^*

$I(J^P) = \frac{1}{2}(1^-)$
I, J, P need confirmation. NODE=S085

Quantum numbers shown are quark-model predictions.

Mass $m_{B^*} = 5324.75 \pm 0.20$ MeV NODE=S085M;DTYPE=M
$m_{B^*} - m_B = 45.18 \pm 0.20$ MeV NODE=S085DM;DTYPE=D
$m_{B^{*+}} - m_{B^+} = 45.34 \pm 0.20$ MeV NODE=S085DM+;DTYPE=D

B^* DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$B\gamma$	seen	45

NODE=S085215;DESIG=1;OUR EST; → UNCHECKED ←

$B_1(5721)$

$I(J^P) = \frac{1}{2}(1^+)$
I, J, P need confirmation. NODE=M244

$B_1(5721)^+$ mass $= 5726.0^{+2.5}_{-2.7}$ MeV NODE=M244M+;DTYPE=M
$m_{B_1^+} - m_{B^{*0}} = 401.2^{+2.4}_{-2.7}$ MeV NODE=M244DM+;DTYPE=D
$B_1(5721)^0$ mass $= 5726.1 \pm 1.2$ MeV (S = 1.2) NODE=M244M0;DTYPE=M
$m_{B_1^0} - m_{B^+} = 446.7 \pm 1.2$ MeV (S = 1.2) NODE=M244DM0;DTYPE=D
$m_{B_1^0} - m_{B^{*+}} = 401.4 \pm 1.2$ MeV (S = 1.2) NODE=M244DM1;DTYPE=D
Full width $\Gamma(B_1(5721)^+) = 31 \pm 6$ MeV (S = 1.1) NODE=M244W+;DTYPE=G
Full width $\Gamma(B_1(5721)^0) = 27.5 \pm 3.4$ MeV (S = 1.1) NODE=M244W0;DTYPE=G

$B_1(5721)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$B^*\pi$	seen	365

NODE=M244215;DESIG=1

$B_2^*(5747)$

$I(J^P) = \frac{1}{2}(2^+)$
I, J, P need confirmation. NODE=M245

$B_2^*(5747)^+$ mass $= 5737.3 \pm 0.7$ MeV NODE=M245M+;DTYPE=M
$m_{B_2^{*+}} - m_{B^0} = 457.5 \pm 0.7$ MeV NODE=M245DM+;DTYPE=D
$B_2^*(5747)^0$ mass $= 5739.6 \pm 0.7$ MeV (S = 1.4) NODE=M245M0;DTYPE=M
$m_{B_2^{*0}} - m_{B_1^0} = 13.5 \pm 1.4$ MeV (S = 1.3) NODE=M245DM0;DTYPE=D
$m_{B_2^{*0}} - m_{B^+} = 460.2 \pm 0.6$ MeV (S = 1.4) NODE=M245DM2;DTYPE=D
Full width $\Gamma(B_2^*(5747)^+) = 20 \pm 5$ MeV (S = 2.2) NODE=M245W+;DTYPE=G
Full width $\Gamma(B_2^*(5747)^0) = 24.2 \pm 1.7$ MeV NODE=M245W0;DTYPE=G

$B_2^*(5747)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$B\pi$	seen	420
$B^*\pi$	seen	376

NODE=M245215;DESIG=1
DESIG=2

$B_J(5970)$

$I(J^P) = \frac{1}{2}(?^?)$
I, J, P need confirmation. NODE=M248

$B_J(5970)^+$ mass $m = 5965 \pm 5$ MeV NODE=M248M+;DTYPE=M
$m_{B_J(5970)^+} - m_{B^0} = 685 \pm 5$ MeV NODE=M248DM+;DTYPE=D
$B_J(5970)^0$ mass $m = 5971 \pm 5$ MeV NODE=M248M0;DTYPE=M
$m_{B_J(5970)^0} - m_{B^+} = 691 \pm 5$ MeV NODE=M248DM0;DTYPE=D
$B_J(5970)^+$ full width $\Gamma = 62 \pm 20$ MeV NODE=M248W+;DTYPE=G
$B_J(5970)^0$ full width $\Gamma = 81 \pm 12$ MeV NODE=M248W0;DTYPE=G

$B_J(5970)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$B\pi$	possibly seen	633
$B^*\pi$	seen	592

NODE=M248215;DESIG=1
DESIG=2

NOTES

[a] An ℓ indicates an e or a μ mode, not a sum over these modes. LINKAGE=DX

[b] An $CP(\pm1)$ indicates the CP=+1 and CP=−1 eigenstates of the D^0-$\overline{D}^0$ system. LINKAGE=CPE

[c] D denotes D^0 or $\overline{D}^0$. LINKAGE=DD

[d] D^{*0}_{CP+} decays into $D^0\pi^0$ with the D^0 reconstructed in CP-even eigenstates K^+K^- and $\pi^+\pi^-$. LINKAGE=CPD

[e] $\overline{D}^{**}$ represents an excited state with mass 2.2 < M < 2.8 GeV/c^2. LINKAGE=DSZ

[f] $\chi_{c1}(3872)^+$ is a hypothetical charged partner of the $\chi_{c1}(3872)$. LINKAGE=RX

[g] $\Theta(1710)^{++}$ is a possible narrow pentaquark state and $G(2220)$ is a possible glueball resonance. LINKAGE=PG

[h] $(\overline{\Lambda}_c^- p)_s$ denotes a low-mass enhancement near 3.35 GeV/c^2. LINKAGE=LP

[i] Stands for the possible candidates of $K^*(1410)$, $K_0^*(1430)$ and $K_2^*(1430)$. LINKAGE=KS

[j] B^0 and B_s^0 contributions not separated. Limit is on weighted average of the two decay rates. LINKAGE=BBS

[k] This decay refers to the coherent sum of resonant and nonresonant J^P $= 0^+$ $K\pi$ components with $1.60 < m_{K\pi} < 2.15$ GeV/c^2. LINKAGE=MKP

[l] $X(214)$ is a hypothetical particle of mass 214 MeV/c^2 reported by the HyperCP experiment, Physical Review Letters **94** 021801 (2005) LINKAGE=HCP

[n] The value is for the sum of the charge states or particle/antiparticle states indicated. LINKAGE=SG

[o] $\Theta(1540)^+$ denotes a possible narrow pentaquark state. LINKAGE=PQ

[p] ψ_{DS} is a GeV-scale dark sector antibaryon (mass range 1–4 GeV/c^2). LINKAGE=MLG

[q] Here S and P are the hypothetical scalar and pseudoscalar particles with masses of 2.5 GeV/c^2 and 214.3 MeV/c^2, respectively. LINKAGE=BSP

[r] These values are model dependent. LINKAGE=AAA

[s] Here "anything" means at least one particle observed. LINKAGE=LX

[t] This is a B($B^0 \to D^{*-}\ell^+\nu_\ell$) value. LINKAGE=B0V

[u] D^{**} stands for the sum of the $D(1\,^1P_1)$, $D(1\,^3P_0)$, $D(1\,^3P_1)$, $D(1\,^3P_2)$, $D(2\,^1S_0)$, and $D(2\,^1S_1)$ resonances. LINKAGE=DSS

[v] $D^{(*)}\overline{D}^{(*)}$ stands for the sum of $D^*\overline{D}^*$, $D^*\overline{D}$, $D\overline{D}^*$, and $D\overline{D}$. LINKAGE=SGG

[x] $X(3915)$ denotes a near-threshold enhancement in the $\omega J/\psi$ mass spectrum. LINKAGE=YOJ

[y] Inclusive branching fractions have a multiplicity definition and can be greater than 100%. LINKAGE=M

[z] D_j represents an unresolved mixture of pseudoscalar and tensor D^{**} (P-wave) states. LINKAGE=DJ