BOTTOM BARYONS ($B = -1$)

$\Lambda_b^0 = udb$, $\Sigma_b^0 = udb$, $\Sigma_b^+ = uub$, $\Sigma_b^- = ddb$
$\Xi_b^0 = usb$, $\Xi_b^- = dsb$, $\Omega_b^- = ssb$

Λ_b^0

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

$I(J^P)$ not yet measured; $0(\frac{1}{2}^+)$ is the quark model prediction.

Mass $m = 5619.57 \pm 0.16$ MeV
$m_{\Lambda_b^0} - m_{B^0} = 339.2 \pm 1.4$ MeV
$m_{\Lambda_b^0} - m_{B^+} = 339.72 \pm 0.28$ MeV
Mean life $\tau = (1.465 \pm 0.009) \times 10^{-12}$ s
$c\tau = 439.2$ μm
$A_{CP}(\Lambda_b \to\ p\pi^-) = (0.3 \pm 0.9) \times 10^{-2}$
$A_{CP}(\Lambda_b \to\ pK^-) = (-1.2 \pm 0.8) \times 10^{-2}$
$A_{CP}(\Lambda_b \to\ Dp K^-) = 0.12 \pm 0.09$
$A_{CP}(\Lambda_b^0 \to\ \Lambda_c^+ \pi^-) = 0.007 \pm 0.009$
$A_{CP}(\Lambda_b^0 \to\ \Lambda_c^+ K^-) = -0.032 \pm 0.030$
$\Delta A_{CP}(pK^-/\pi^-) = 0.014 \pm 0.024$
$A_{CP}(\Lambda_b \to\ p\overline{K}^0\pi^-) = 0.039 \pm 0.021$
$A_{CP}(\Lambda_b \to\ p\overline{K}^0 K^-) = 0.02 \pm 0.16$
$\Delta A_{CP}(J/\psi p\pi^-/K^-) = (5.7 \pm 2.7) \times 10^{-2}$
$A_{CP}(\Lambda_b \to\ \Lambda\pi^+\pi^-) = -0.01 \pm 0.06$
$A_{CP}(\Lambda_b \to\ \Lambda K^+\pi^-) = -0.12 \pm 0.05$
$A_{CP}(\Lambda_b \to\ \Lambda K^+ K^-) = 0.083 \pm 0.028$
$\Delta A_{CP}(\Lambda_b^0 \to\ pK^-\mu^+\mu^-) = (-4 \pm 5) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ p\pi^-\pi^+\pi^-) = (1.1 \pm 2.6) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to (p\pi^-\pi^+\pi^-)_{LBM}) = (4 \pm 4) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ pa_1(1260)^-) = (-1 \pm 4) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ N(1520)^0\rho(770)^0) = (2 \pm 5) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ \Delta(1232)^{++}\pi^-\pi^-) = (0.1 \pm 3.3) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ pK^-\pi^+\pi^-) = (2.5 \pm 0.5) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to (pK^-\pi^+\pi^-)_{LBM}) = (3.5 \pm 1.6) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ N(1520)^0 K^*(892)^0) = (5.5 \pm 2.5) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ \Lambda(1520)\rho(770)^0) = (1 \pm 6) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ \Delta(1232)^{++}K^-\pi^-) = (4.4 \pm 2.7) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ pK_1(1410)^-) = (5 \pm 4) \times 10^{-2}$

$\Delta A_{CP}(\Lambda_b^0 \to\ p K^- K^+ \pi^-) = (-7 \pm 5) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ p K^- K^+ K^-) = (0.2 \pm 1.9) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ \Lambda(1520)\phi(1020)) = (4 \pm 6) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ (p K^-)_{highmass}\ \phi(1020)) = (-0.7 \pm 3.4) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to (p K^- K^+ K^-)_{LBM}) = (2.7 \pm 2.4) \times 10^{-2}$
$A_{FB}^{\ell}(\mu\mu)$ in $\Lambda_b \to\ \Lambda\mu^+\mu^- = -0.39 \pm 0.04$
$\Delta(A_{FB}^{\ell}(\mu\mu))$ in $\Lambda_b \to\ \Lambda\mu^+\mu^- = -0.05 \pm 0.09$
$A_{FB}^{h}(p\pi)$ in $\Lambda_b \to\ \Lambda(p\pi)\mu^+\mu^- = -0.30 \pm 0.05$
$A_{FB}^{\ell h}$ in $\Lambda_b \to\ \Lambda\mu^+\mu^- = 0.25 \pm 0.04$

The branching fractions B(*b*-baryon $\to\ \Lambda\ell^-\overline{\nu}_\ell$anything) and B($\Lambda_b^0 \to\ \Lambda_c^+\ell^-\overline{\nu}_\ell$anything) are not pure measurements because the underlying measured products of these with B($b \to\ b$-baryon) were used to determine B($b \to\ b$-baryon), as described in the note "Production and Decay of *b*-Flavored Hadrons."

For inclusive branching fractions, *e.g.*, $\Lambda_b \to\ \overline{\Lambda}_c$anything, the values usually are multiplicities, not branching fractions. They can be greater than one.

Λ_b^0 DECAY MODES		Fraction (Γ_i/Γ)	Scale factor/ Confidence level	*p* (MeV/*c*)
$J/\psi(1S)\Lambda$		$(3.0 \pm 0.8) \times 10^{-4}$		1740
$J/\psi(1S)\Lambda\phi$		$(1.2 \pm 0.4) \times 10^{-5}$		1010
$\psi(2S)\Lambda$		$(1.5 \pm 0.4) \times 10^{-4}$		1298
$p D^0 \pi^-$		$(6.4 \pm 0.6) \times 10^{-4}$		2370
$p D^+ \pi^- \pi^-$		$(2.8 \pm 0.4) \times 10^{-4}$		2332
$p D^*(2010)^+ \pi^- \pi^-$		$(5.3 \pm 1.0) \times 10^{-4}$		2277
$p D^0 K^-$		$(4.6 \pm 0.8) \times 10^{-5}$		2269
$p J/\psi \pi^-$		$(2.6\ ^{+0.5}_{-0.4}) \times 10^{-5}$		1755
$p\pi^- J/\psi,\ J/\psi \to\ \mu^+\mu^-$		$(1.6 \pm 0.8) \times 10^{-6}$		–
$p J/\psi K^-$		$(3.2\ ^{+0.6}_{-0.5}) \times 10^{-4}$		1589
$J/\psi \Xi^- K^+$		$(3.6 \pm 1.1) \times 10^{-6}$		1329
$p\eta_c(1S) K^-$		$(1.06 \pm 0.26) \times 10^{-4}$		1670
$P_{c\overline{c}}(4312)^+ K^-,\ P_{c\overline{c}}^+ \to\ p\eta_c(1S)$		$< 2.5 \times 10^{-5}$	CL=95%	–
$P_{c\overline{c}}(4380)^+ K^-,\ P_{c\overline{c}}^+ \to\ p J/\psi$	[a]	$(2.7 \pm 1.4) \times 10^{-5}$		–
$P_c(4450)^+ K^-,\ P_c \to\ p J/\psi$	[a]	$(1.3 \pm 0.4) \times 10^{-5}$		–
$\chi_{c1}(1P) p K^-$		$(7.7\ ^{+1.5}_{-1.3}) \times 10^{-5}$		1242
$\chi_{c1}(1P) p\pi^-$		$(5.1\ ^{+1.3}_{-1.2}) \times 10^{-6}$		1462
$\chi_{c2}(1P) p K^-$		$(8.0\ ^{+1.7}_{-1.4}) \times 10^{-5}$		1198

$\chi_{c2}(1P)\,p\pi^-$	$(\ 4.8\ \pm1.9\ )\times10^{-6}$		1427
$pJ/\psi(1S)\,\pi^+\pi^-K^-$	$(\ 6.6\ ^{+1.3}_{-1.1}\ )\times10^{-5}$		1410
$p\psi(2S)\,K^-$	$(\ 6.6\ ^{+1.2}_{-1.0}\ )\times10^{-5}$		1063
$\chi_{c1}(3872)\,pK^-$	$(\ 2.8\ \pm1.2\ )\times10^{-5}$		837
$\chi_{c1}(3872)\,\Lambda(1520)$	$(\ 1.6\ \pm0.8\ )\times10^{-5}$		721
$\psi(2S)\,p\pi^-$	$(\ 7.5\ ^{+1.6}_{-1.4}\ )\times10^{-6}$		1320
$p\overline{K}^0\pi^-$	$(\ 1.95\pm0.34)\times10^{-5}$	S=1.9	2693
pK^0K^-	$(\ 1.22\pm0.23)\times10^{-6}$		2639
$\Lambda_c^+\pi^-$	$(\ 4.9\ \pm0.4\ )\times10^{-3}$	S=1.2	2342
$\Lambda_c^+K^-$	$(\ 3.56\pm0.28)\times10^{-4}$	S=1.2	2314
$\Lambda_c^+\,a_1(1260)^-$	seen		2153
$\Lambda_c^+D^-$	$(\ 4.6\ \pm0.6\ )\times10^{-4}$		1886
$\Lambda_c^+D_s^-$	$(\ 1.10\pm0.10)\ \%$		1833
$\Lambda_c^+D_s^{*-}$	$(\ 1.83\pm0.18)\ \%$		1748
$\Lambda_c^+D_s^-K^+K^-$	$(\ 1.55\pm0.28)\times10^{-4}$		1005
$P_{c\overline{c}s}(4459)\,K^+K^-$, $P_{c\overline{c}s}(4459)\to\ \Lambda_c^+D_s^-$	$<\ 2.6\ \times10^{-5}$	CL=90%	–
$P_{c\overline{c}s}(4338)\,K^+K^-$, $P_{c\overline{c}s}(4338)\to\ \Lambda_c^+D_s^-$	$<\ 1.6\ \times10^{-5}$	CL=90%	–
$\Lambda_c^+\overline{D}^0K^-$	$(\ 2.13\pm0.20)\times10^{-3}$		1581
$\Lambda_c^+\overline{D}^{*0}K^-$	$(\ 6.6\ \pm0.7\ )\times10^{-3}$		1471
$\Lambda_c^+\pi^+\pi^-\pi^-$	$(\ 7.6\ \pm1.1\ )\times10^{-3}$	S=1.1	2323
$\Lambda_c(2595)^+\pi^-$, $\Lambda_c(2595)^+\to\ \Lambda_c^+\pi^+\pi^-$	$(\ 3.4\ \pm1.4\ )\times10^{-4}$		2210
$\Lambda_c(2625)^+\pi^-$, $\Lambda_c(2625)^+\to\ \Lambda_c^+\pi^+\pi^-$	$(\ 3.3\ \pm1.3\ )\times10^{-4}$		2193
$\Sigma_c(2455)^0\pi^+\pi^-$, $\Sigma_c^0\to\ \Lambda_c^+\pi^-$	$(\ 5.7\ \pm2.2\ )\times10^{-4}$		2265
$\Sigma_c(2455)^{++}\pi^-\pi^-$, $\Sigma_c^{++}\to\ \Lambda_c^+\pi^+$	$(\ 3.2\ \pm1.5\ )\times10^{-4}$		2265
$\Sigma_c(2455)^{++}D^-K^-$	$(\ 6.0\ \pm0.8\ )\times10^{-4}$		1448
$\Sigma_c(2455)^{++}D^{*-}K^-$	$(\ 1.36\pm0.23)\times10^{-3}$		1324
$\Sigma_c(2520)^{++}D^-K^-$	$(\ 2.8\ \pm0.5\ )\times10^{-4}$		1392
$\Sigma_c(2520)^{++}D^{*-}K^-$	$(\ 5.4\ \pm1.1\ )\times10^{-4}$		1262
$\Lambda_c^+K^+K^-\pi^-$	$(\ 1.02\pm0.11)\times10^{-3}$		2184
$\Lambda_c^+p\overline{p}\pi^-$	$(\ 2.63\pm0.27)\times10^{-4}$		1805
$\Sigma_c(2455)^0p\overline{p}$, $\Sigma_c^0\to\ \Lambda_c^+\pi^-$	$(\ 2.3\ \pm0.5\ )\times10^{-5}$		–

$\Sigma_c(2520)^0 p\overline{p}$, $\Sigma_c(2520)^0 \to \Lambda_c^+ \pi^-$		(3.1 ±0.7) × 10^{-5}		–
$\Lambda_c^+ \ell^- \overline{\nu}_\ell$ anything	[b]	(10.9 ±2.2) %		–
$\Lambda_c^+ \ell^- \overline{\nu}_\ell$		(6.2 $^{+1.4}_{-1.3}$) %		2345
$\Lambda_c^+ \tau^- \overline{\nu}_\tau$		(1.9 ±0.5) %		1933
$\Lambda_c^+ \pi^+ \pi^- \ell^- \overline{\nu}_\ell$		(5.6 ±3.1) %		2335
$\Lambda_c(2595)^+ \ell^- \overline{\nu}_\ell$		(7.9 $^{+4.0}_{-3.5}$) × 10^{-3}		2212
$\Lambda_c(2625)^+ \ell^- \overline{\nu}_\ell$		(1.3 $^{+0.6}_{-0.5}$) %		2195
$p h^-$	[c]	< 2.3 × 10^{-5}	CL=90%	2730
$p\pi^-$		(4.6 ±0.8) × 10^{-6}		2730
pK^-		(5.5 ±1.0) × 10^{-6}		2709
pD_s^-		(1.25±0.13) × 10^{-5}		2364
$p\mu^-\overline{\nu}_\mu$		(4.1 ±1.0) × 10^{-4}		2730
$\Lambda\mu^+\mu^-$		(1.08±0.28) × 10^{-6}		2695
$p\pi^-\mu^+\mu^-$		(6.9 ±2.5) × 10^{-8}		2720
$pK^-e^+e^-$		(3.1 ±0.6) × 10^{-7}		2708
$pK^-\mu^+\mu^-$		(2.6 $^{+0.5}_{-0.4}$) × 10^{-7}		2685
$\Lambda\gamma$		(7.1 ±1.7) × 10^{-6}		2699
$\Lambda\eta$		(9 $^{+7}_{-5}$) × 10^{-6}		2670
$\Lambda\eta'(958)$		< 3.1 × 10^{-6}	CL=90%	2610
$\Lambda\pi^+\pi^-$		(6.4 ±0.9) × 10^{-6}		2692
$\Lambda K^+\pi^-$		(5.5 ±0.7) × 10^{-6}		2660
ΛK^+K^-		(1.29±0.12) × 10^{-5}		2605
ΛD^+D^-		(1.24±0.35) × 10^{-4}		1387
$\Lambda\phi$		(9.8 ±2.6) × 10^{-6}		2599
$p\pi^-\pi^+\pi^-$		(2.13±0.21) × 10^{-5}		2715
$pK^-K^+\pi^-$		(4.1 ±0.6) × 10^{-6}		2612
$pK^-\pi^+\pi^-$		(5.1 ±0.5) × 10^{-5}		2675
$pK^-K^+K^-$		(1.28±0.13) × 10^{-5}		2524

$\Lambda_b(5912)^0$ $J^P = \frac{1}{2}^-$

Mass $m = 5912.16 \pm 0.16$ MeV
Full width $\Gamma < 0.25$ MeV, CL = 90%

$\Lambda_b(5912)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b^0 \pi^+ \pi^-$	seen	86

$\Lambda_b(5920)^0$ $J^P = \frac{3}{2}^-$

Mass $m = 5920.07 \pm 0.16$ MeV
Full width $\Gamma < 0.19$ MeV, CL = 90%

$\Lambda_b(5920)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b^0 \pi^+ \pi^-$	seen	108

$\Lambda_b(6070)^0$ $J^P = \frac{1}{2}^+$

Quantum numbers based on quark model expectations.

Mass $m = 6072.3 \pm 2.9$ MeV
Full width $\Gamma = 72 \pm 11$ MeV

$\Lambda_b(6070)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b^0 \pi^+ \pi^-$	seen	343

$\Lambda_b(6146)^0$ $J^P = \frac{3}{2}^+$

Mass $m = 6146.2 \pm 0.4$ MeV
$m_{\Lambda_b(6146)^0} - m_{\Lambda_b^0} = 526.55 \pm 0.34$ MeV
Full width $\Gamma = 2.9 \pm 1.3$ MeV

$\Lambda_b(6146)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b^0 \pi^+ \pi^-$	seen	427

$\Lambda_b(6152)^0$ $J^P = \frac{5}{2}^+$

Mass $m = 6152.5 \pm 0.4$ MeV
$m_{\Lambda_b(6152)^0} - m_{\Lambda_b^0} = 532.89 \pm 0.28$ MeV
$m_{\Lambda_b(6152)^0} - m_{\Lambda_b(6146)^0} = 6.34 \pm 0.32$ MeV
Full width $\Gamma = 2.1 \pm 0.9$ MeV

$\Lambda_b(6152)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b^0 \pi^+ \pi^-$	seen	434

Σ_b

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

Mass $m(\Sigma_b^+) = 5810.56 \pm 0.25$ MeV
Mass $m(\Sigma_b^-) = 5815.64 \pm 0.27$ MeV
$m_{\Sigma_b^+} - m_{\Sigma_b^-} = -5.06 \pm 0.18$ MeV
$\Gamma(\Sigma_b^+) = 5.0 \pm 0.5$ MeV
$\Gamma(\Sigma_b^-) = 5.3 \pm 0.5$ MeV

Σ_b DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b^0\pi$	dominant	133

Σ_b^*

$I(J^P) = 1(\frac{3}{2}^+)$
I, J, P need confirmation.

Mass $m(\Sigma_b^{*+}) = 5830.32 \pm 0.27$ MeV
Mass $m(\Sigma_b^{*-}) = 5834.74 \pm 0.30$ MeV
$m_{\Sigma_b^{*+}} - m_{\Sigma_b^{*-}} = -4.37 \pm 0.33$ MeV (S = 1.6)
$m_{\Sigma_b^{*+}} - m_{\Sigma_b^+} = 19.73 \pm 0.18$
$m_{\Sigma_b^{*-}} - m_{\Sigma_b^-} = 19.09 \pm 0.22$
$\Gamma(\Sigma_b^{*+}) = 9.4 \pm 0.5$ MeV
$\Gamma(\Sigma_b^{*-}) = 10.4 \pm 0.8$ MeV (S = 1.3)
$m_{\Sigma_b^*} - m_{\Sigma_b} = 21.2 \pm 2.0$ MeV

Σ_b^* DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b^0\pi$	dominant	159

$\Sigma_b(6097)^+$

$J^P = ?^?$

Mass $m = 6095.8 \pm 1.7$ MeV
Full width $\Gamma = 31 \pm 6$ MeV

$\Sigma_b(6097)^+$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b\pi^+ \times$ B($b \to$ $\Sigma_b(6097)^+$)	seen	–

$\Sigma_b(6097)^-$

$J^P = ?^?$

Mass $m = 6098.0 \pm 1.8$ MeV
Full width $\Gamma = 29 \pm 4$ MeV

$\Sigma_b(6097)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b\pi^-\times$ B($b\to\ \Sigma_b(6097)^-$)	seen	–

Ξ_b^-

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

$m(\Xi_b^-) = 5797.0 \pm 0.4$ MeV (S = 1.4)
$m_{\Xi_b^-} - m_{\Lambda_b^0} = 177.48 \pm 0.24$ MeV (S = 1.1)
$m_{\Xi_b^-} - m_{\Xi_b^0} = 5.9 \pm 0.5$ MeV
Mean life $\tau_{\Xi_b^-} = (1.575 \pm 0.021)\times 10^{-12}$ s

Ξ_b^- DECAY MODES	Fraction (Γ_i/Γ)	Confidence level	p (MeV/c)
$J/\psi\Xi^-\times$ B($b\to\ \Xi_b^-$)	$(1.0\pm0.4)\times10^{-5}$		1786
$J/\psi\Lambda K^-\times$ B($b\to\ \Xi_b^-$)	$(2.3\pm0.7)\times10^{-6}$		1636
$pK^-K^-\times$ B($b\to\ \Xi_b^-$)	$(3.7\pm0.8)\times10^{-8}$		2734
pK^-K^-	$(2.3\pm0.9)\times10^{-6}$		2734
$p\pi^-\pi^-$	$< 1.3 \times10^{-6}$	90%	2815
$pK^-\pi^-$	$(2.3\pm1.1)\times10^{-6}$		2786
$\Lambda_b^0\pi^-\times$ B($b\to\ \Xi_b^-$)/B($b\to\ \Lambda_b^0$)	$(7.0\pm0.9)\times10^{-4}$		108
$\Xi_c^0\pi^-$	seen		2370
$\Xi_c^0 D_s^-\times$ B($b\to\ \Xi_b^-$)/B($b\to\ \Lambda_b^0$)	$(1.9\pm0.5)\times10^{-3}$		1857
$\Sigma(1385)K^-$	$(2.6\pm2.3)\times10^{-7}$		2710
$\Lambda(1405)K^-$	$(1.9\pm1.2)\times10^{-7}$		2705
$\Lambda(1520)K^-$	$(7.6\pm3.2)\times10^{-7}$		2675
$\Lambda(1670)K^-$	$(4.5\pm2.3)\times10^{-7}$		2632
$\Sigma(1775)K^-$	$(2.2\pm1.5)\times10^{-7}$		2601
$\Sigma(1915)K^-$	$(2.6\pm2.5)\times10^{-7}$		2556
$J/\psi\Xi^-$	seen		1786
$\psi(2S)\Xi^-$	seen		1333
$\Xi^-\gamma$	$< 1.3 \times10^{-4}$	95%	2748

Ξ_b^0

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

$m(\Xi_b^0) = 5791.7 \pm 0.4$ MeV
$m_{\Xi_b^0} - m_{\Lambda_b^0} = 172.3 \pm 0.4$ MeV
Mean life $\tau_{\Xi_b^0} = (1.472 \pm 0.016)\times 10^{-12}$ s

Ξ_b^0 DECAY MODES	Fraction (Γ_i/Γ)	Confidence level	p (MeV/c)
$pD^0K^-\times$ B($b\to\ \Xi_b^0$)	$(1.7\ \pm0.6\ )\times10^{-6}$		2374
$p\overline{K}^0\pi^-\times$ B($b\to\ \Xi_b^0$)/B($\overline{b}\to$ B^0)	$<1.6\ \times10^{-6}$	90%	2783
$p\overline{K}^0\pi^-$	$<5.6\ \times10^{-6}$	90%	2783
$pK^0K^-\times$ B($b\to\ \Xi_b^0$)/B($\overline{b}\to$ B^0)	$<1.1\ \times10^{-6}$	90%	2730
$p\overline{K}^0K^-$	$(7.8\ \pm3.3\ )\times10^{-6}$		2730
$\Lambda\pi^+\pi^-\times$ B($b\to\ \Xi_b^0$)/B($b\to$ Λ_b^0)	$<1.7\ \times10^{-6}$	90%	2781
$\Lambda K^-\pi^+\times$ B($b\to\ \Xi_b^0$)/B($b\to$ Λ_b^0)	$<8\ \times10^{-7}$	90%	2751
$\Lambda K^+K^-\times$ B($b\to\ \Xi_b^0$)/B($b\to$ Λ_b^0)	$<3\ \times10^{-7}$	90%	2698
$\Lambda\pi^+\pi^-$	$(1.3\ \pm0.6\ )\times10^{-5}$		2781
$\Lambda K^-\pi^+$	$(1.3\ \pm0.5\ )\times10^{-5}$		2751
ΛK^+K^-	$<3.4\ \times10^{-6}$	95%	2698
$J/\psi\Lambda$	seen		1867
$J/\psi\Xi^0$	seen		1785
$J/\psi\Xi^-\pi^+\times$ B($b\to\ \Xi_b^0$)	$(1.2\ \pm0.5\ )\times10^{-6}$		1714
$\Xi_c^+D_s^-\times$ B($b\to\ \Xi_b^0$)/B($b\to$ Λ_b^0)	$(1.7\ \pm0.9\ )\times10^{-3}$		1855
$\Lambda_c^+K^-\times$ B($b\to\ \Xi_b^0$)	$(6\ \ \pm4\ \ )\times10^{-7}$		2416
$pK^-\pi^+\pi^-\times$ B($b\to$ Ξ_b^0)/B($b\to\ \Lambda_b^0$)	$(1.9\ \pm0.4\ )\times10^{-6}$		2765
$pK^-K^-\pi^+\times$ B($b\to$ Ξ_b^0)/B($b\to\ \Lambda_b^0$)	$(1.74\pm0.31)\times10^{-6}$		2704
$pK^-K^+K^-\times$ B($b\to$ Ξ_b^0)/B($b\to\ \Lambda_b^0$)	$(1.8\ \pm1.0\ )\times10^{-7}$		2619

$\Xi_b'(5935)^-$

$J^P=\frac{1}{2}^+$

Mass $m = 5934.9 \pm 0.4$ MeV
Full width $\Gamma < 0.03 \pm 0.032$ MeV

$\Xi_b'(5935)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^0\pi^-\times$ B($\overline{b}\to$ $\Xi_b'(5935)^-$)/B($\overline{b}\to\ \Xi_b^0$)	(11.8±1.8) %	32

$\Xi_b(5945)^0$

$J^P = \frac{3}{2}+$

Mass $m = 5952.3 \pm 0.6$ MeV
Full width $\Gamma = 0.87 \pm 0.07$ MeV

$\Xi_b(5945)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^- \pi^+$	seen	67

$\Xi_b(5955)^-$

$J^P = \frac{3}{2}+$

Mass $m = 5955.5 \pm 0.4$ MeV
Full width $\Gamma = 1.43 \pm 0.11$ MeV

$\Xi_b(5955)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^0 \pi^- \times$ B($\overline{b} \to$ $\Xi_b^*(5955)^-$)/B($\overline{b} \to$ Ξ_b^0)	(20.7±3.5) %	84

$\Xi_b(6087)^0$

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

Mass $m = 6087.0 \pm 0.5$ MeV
Full width $\Gamma = 2.4 \pm 0.5$ MeV

$\Xi_b(6087)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^0 \pi^+ \pi^-$	seen	94

$\Xi_b(6095)^0$

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

Mass $m = 6095.1 \pm 0.4$ MeV
Full width $\Gamma = 0.50 \pm 0.35$ MeV

$\Xi_b(6095)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^0 \pi^+ \pi^-$	seen	116

$\Xi_b(6100)^-$

$J^P = \frac{3}{2}-$
J, P need confirmation.

Mass $m = 6099.8 \pm 0.4$ MeV
Full width $\Gamma = 0.94 \pm 0.31$ MeV

$\Xi_b(6100)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^- \pi^+ \pi^-$	seen	114

$\Xi_b(6227)^-$

$J^P = ?^?$

Mass $m = 6227.9 \pm 0.9$ MeV
Full width $\Gamma = 19.9 \pm 2.6$ MeV

$\Xi_b(6227)^-$ DECAY MODES	Fraction (Γ_i/Γ)	Scale factor	p (MeV/c)
$\Lambda_b^0 K^- \times$ B($b \to$ $\Xi_b(6227)$)/B($b \to \Lambda_b^0$)	$(3.20 \pm 0.35) \times 10^{-3}$		336
$\Xi_b^0 \pi^- \times$ B($b \to$ $\Xi_b(6227)$)/B($b \to \Xi_b^0$)	(2.8 $\pm$1.1) %	1.8	398

$\Xi_b(6227)^0$

$J^P = ?^?$

Mass $m = 6226.8 \pm 1.6$ MeV
Full width $\Gamma = 19^{+5}_{-4}$ MeV

$\Xi_b(6227)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^- \pi^+ \times$ B($b \to$ $\Xi_b(6227)^0$)/B($b \to \Xi_b^-$)	(4.5$\pm$0.9) %	392

$\Xi_b(6327)^0$

$J^P = ?^?$

Mass $m = 6327.28 \pm 0.35$ MeV
Full width $\Gamma < 2.56$ MeV, CL = 95%

$\Xi_b(6327)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b^0 K^- \pi^+$	seen	298

$\Xi_b(6333)^0$

$J^P = ?^?$

Mass $m = 6332.69 \pm 0.28$ MeV
Full width $\Gamma < 1.92$ MeV, CL = 95%

$\Xi_b(6333)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Lambda_b^0 K^- \pi^+$	seen	309

Ω_b^-

$I(J^P) = 0(\frac{1}{2}^+)$
I, J, P need confirmation.

Mass $m = 6045.8 \pm 0.8$ MeV
$m_{\Omega_b^-} - m_{\Lambda_b^0} = 426.4 \pm 2.2$ MeV
$m_{\Omega_b^-} - m_{\Xi_b^-} = 248.5 \pm 0.6$ MeV
Mean life $\tau = (1.64 \pm 0.16) \times 10^{-12}$ s
$\tau(\Omega_b^-)/\tau(\Xi_b^-)$ mean life ratio $= 1.11 \pm 0.16$

Ω_b^- DECAY MODES	Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)
$J/\psi\,\Omega^- \times$B($b \to\ \Omega_b$)	$(1.5 \pm 0.5) \times 10^{-6}$	S=1.1	1805
$p K^- K^- \times$B($\overline{b} \to\ \Omega_b$)	$< 2.3 \times 10^{-9}$	CL=90%	2865
$p \pi^- \pi^- \times$B($\overline{b} \to\ \Omega_b$)	$< 1.5 \times 10^{-8}$	CL=90%	2943
$p K^- \pi^- \times$B($\overline{b} \to\ \Omega_b$)	$< 7 \times 10^{-9}$	CL=90%	2915
$\Omega_c^0 \pi^-$	seen		2420
$\Omega_c^0 \pi^-,\ \Omega_c^0 \to\ p K^- K^- \pi^+$	seen		–
$\Xi_c^+ K^- \pi^-$	seen		2473

$\Omega_b(6316)^-$

$I(J^P) = ?(?^?)$
I, J, P need confirmation.

Mass $m = 6315.6 \pm 0.6$ MeV
Full width $\Gamma\ <\ 4.2$ MeV, CL = 95%

$\Omega_b(6316)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^0 K^-$	seen	168

$\Omega_b(6330)^-$

$I(J^P) = ?(?^?)$
I, J, P need confirmation.

Mass $m = 6330.3 \pm 0.6$ MeV
Full width $\Gamma\ <\ 4.7$ MeV, CL = 95%

$\Omega_b(6330)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^0 K^-$	seen	206

$\Omega_b(6340)^-$

$I(J^P) = ?(?^?)$
I, J, P need confirmation.

Mass $m = 6339.7 \pm 0.6$ MeV
Full width $\Gamma < 1.8$ MeV, CL = 95%

$\Omega_b(6340)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^0 K^-$	seen	227

$\Omega_b(6350)^-$

$I(J^P) = ?(?^?)$
I, J, P need confirmation.

Mass $m = 6349.8 \pm 0.6$ MeV
Full width $\Gamma < 3.2$ MeV, CL = 95%

$\Omega_b(6350)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^0 K^-$	seen	249

b-baryon ADMIXTURE (Λ_b, Ξ_b, Ω_b)

These branching fractions are actually an average over weakly decaying b-baryons weighted by their production rates at the LHC, LEP, and Tevatron, branching ratios, and detection efficiencies. They scale with the b-baryon production fraction B($b \to$ b-baryon).

The branching fractions B(b-baryon $\to$ $\Lambda \ell^- \overline{\nu}_\ell$ anything) and B($\Lambda_b^0 \to$ $\Lambda_c^+ \ell^- \overline{\nu}_\ell$ anything) are not pure measurements because the underlying measured products of these with B($b \to$ b-baryon) were used to determine B($b \to$ b-baryon), as described in the note "Production and Decay of b-Flavored Hadrons."

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.

b-baryon ADMIXTURE DECAY MODES (Λ_b,Ξ_b,Ω_b)	Fraction (Γ_i/Γ)	Scale factor	p (MeV/c)
$p \mu^- \overline{\nu}$ anything	($5.8^{+\ 2.3}_{-\ 2.0}$) %		–
$p \ell \overline{\nu}_\ell$ anything	(5.6± 1.2) %		–
p anything	(70 ±22) %		–
$\Lambda \ell^- \overline{\nu}_\ell$ anything	(3.8± 0.6) %		–
$\Lambda \ell^+ \nu_\ell$ anything	(3.2± 0.8) %		–
Λ anything	(39 ± 7) %		–
$\Xi^- \ell^- \overline{\nu}_\ell$ anything	(4.6± 1.4) $\times 10^{-3}$	1.2	–

NOTES

[*a*] P_c^+ is a pentaquark-charmonium state.

[*b*] Not a pure measurement. See note at head of Λ_b^0 Decay Modes.

[*c*] Here h^- means π^- or K^-.