BOTTOM BARYONS ($B = -1$)

$\Lambda_b^0 = udb$, $\Xi_b^0 = usb$, $\Xi_b^- = dsb$, $\Omega_b^- = ssb$

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 $m = 5619.60 \pm 0.17$ 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 $\tau = (1.471 \pm 0.009) \times 10^{-12}$ s
$c\tau = 441.0$ μm
$A_{CP}(\Lambda_b \to\ p\pi^-) = -0.025 \pm 0.029$ (S = 1.2)
$A_{CP}(\Lambda_b \to\ pK^-) = -0.025 \pm 0.022$
$A_{CP}(\Lambda_b \to\ DpK^-) = 0.12 \pm 0.09$
$\Delta A_{CP}(pK^-/\pi^-) = 0.014 \pm 0.024$
$A_{CP}(\Lambda_b \to\ p\overline{K}^0\pi^-) = 0.22 \pm 0.13$
$\Delta A_{CP}(J/\psi\, p\pi^-/K^-) = (5.7 \pm 2.7) \times 10^{-2}$
$A_{CP}(\Lambda_b \to\ \Lambda K^+\pi^-) = -0.53 \pm 0.25$
$A_{CP}(\Lambda_b \to\ \Lambda K^+K^-) = -0.28 \pm 0.12$
$\Delta A_{CP}(\Lambda_b^0 \to\ pK^-\mu^+\mu^-) = (-4 \pm 5) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ p\pi^-\pi^+\pi^-) = (1.1 \pm 2.6) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to (p\pi^-\pi^+\pi^-)_{LBM}) = (4 \pm 4) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ pa_1(1260)^-) = (-1 \pm 4) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ N(1520)^0\rho(770)^0) = (2 \pm 5) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ \Delta(1232)^{++}\pi^-\pi^-) = (0.1 \pm 3.3) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ pK^-\pi^+\pi^-) = (3.2 \pm 1.3) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to (pK^-\pi^+\pi^-)_{LBM}) = (3.5 \pm 1.6) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ N(1520)^0K^*(892)^0) = (5.5 \pm 2.5) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ \Lambda(1520)\rho(770)^0) = (1 \pm 6) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ \Delta(1232)^{++}K^-\pi^-) = (4.4 \pm 2.7) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ pK_1(1410)^-) = (5 \pm 4) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ pK^-K^+\pi^-) = (-7 \pm 5) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ pK^-K^+K^-) = (0.2 \pm 1.9) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ \Lambda(1520)\phi(1020)) = (4 \pm 6) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to\ (pK^-)_{highmass}\ \phi(1020)) = (-0.7 \pm 3.4) \times 10^{-2}$
$\Delta A_{CP}(\Lambda_b^0 \to (pK^-K^+K^-)_{LBM}) = (2.7 \pm 2.4) \times 10^{-2}$
$A_{FB}^{\ell}(\mu\mu)$ 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)
$J/\psi(1S)\Lambda\times$ B($b \to \Lambda_b^0$)		$(5.8 \pm 0.8) \times 10^{-5}$		1740
$pD^0\pi^-$		$(6.2 \pm 0.6) \times 10^{-4}$		2370
$pD^+\pi^-\pi^-$		$(2.7 \pm 0.4) \times 10^{-4}$		2332
$pD^*(2010)^+\pi^-\pi^-$		$(5.2 \pm 1.0) \times 10^{-4}$		2277
pD^0K^-		$(4.5 \pm 0.8) \times 10^{-5}$		2269
$pJ/\psi\pi^-$		$(2.6 \,^{+0.5}_{-0.4}) \times 10^{-5}$		1755
$p\pi^- J/\psi$, $J/\psi \to \mu^+\mu^-$		$(1.6 \pm 0.8) \times 10^{-6}$		–
$pJ/\psi K^-$		$(3.2 \,^{+0.6}_{-0.5}) \times 10^{-4}$		1589
$p\eta_c(1S)K^-$		$(1.06 \pm 0.26) \times 10^{-4}$		1670
$P_c(4312)^+K^-$, $P_c(4312)^+ \to p\eta_c(1S)$		$< 2.5 \times 10^{-5}$	CL=95%	–
$P_c(4380)^+K^-$, $P_c \to pJ/\psi$	[a]	$(2.7 \pm 1.4) \times 10^{-5}$		–
$P_c(4450)^+K^-$, $P_c \to pJ/\psi$	[a]	$(1.3 \pm 0.4) \times 10^{-5}$		–
$\chi_{c1}(1P)pK^-$		$(7.6 \,^{+1.5}_{-1.3}) \times 10^{-5}$		1242
$\chi_{c1}(1P)p\pi^-$		$(5.0 \,^{+1.3}_{-1.1}) \times 10^{-6}$		1462
$\chi_{c2}(1P)pK^-$		$(7.9 \,^{+1.6}_{-1.4}) \times 10^{-5}$		1198
$\chi_{c2}(1P)p\pi^-$		$(4.8 \pm 1.9) \times 10^{-6}$		1427
$pJ/\psi(1S)\pi^+\pi^-K^-$		$(6.6 \,^{+1.3}_{-1.1}) \times 10^{-5}$		1410
$p\psi(2S)K^-$		$(6.6 \,^{+1.2}_{-1.0}) \times 10^{-5}$		1063
$\chi_{c1}(3872)pK^-$		$(3.2 \pm 1.4) \times 10^{-5}$		837
$\chi_{c1}(3872)\Lambda(1520)$		$(1.9 \pm 0.9) \times 10^{-5}$		721
$\psi(2S)p\pi^-$		$(7.5 \,^{+1.6}_{-1.4}) \times 10^{-6}$		1320
$p\overline{K}^0\pi^-$		$(1.3 \pm 0.4) \times 10^{-5}$		2693
pK^0K^-		$< 3.5 \times 10^{-6}$	CL=90%	2639
$\Lambda_c^+\pi^-$		$(4.9 \pm 0.4) \times 10^{-3}$	S=1.2	2342
$\Lambda_c^+K^-$		$(3.56 \pm 0.28) \times 10^{-4}$	S=1.2	2314

$\Lambda_c^+ a_1(1260)^-$		seen		2153
$\Lambda_c^+ D^-$		$(4.6 \pm 0.6) \times 10^{-4}$		1886
$\Lambda_c^+ D_s^-$		(1.10±0.10) %		1833
$\Lambda_c^+ \pi^+ \pi^- \pi^-$		$(7.6 \pm 1.1) \times 10^{-3}$	S=1.1	2323
$\Lambda_c(2595)^+ \pi^-$, $\Lambda_c(2595)^+ \to \Lambda_c^+ \pi^+ \pi^-$		$(3.4 \pm 1.4) \times 10^{-4}$		2210
$\Lambda_c(2625)^+ \pi^-$, $\Lambda_c(2625)^+ \to \Lambda_c^+ \pi^+ \pi^-$		$(3.3 \pm 1.3) \times 10^{-4}$		2193
$\Sigma_c(2455)^0 \pi^+ \pi^-$, $\Sigma_c^0 \to \Lambda_c^+ \pi^-$		$(5.7 \pm 2.2) \times 10^{-4}$		2265
$\Sigma_c(2455)^{++} \pi^- \pi^-$, $\Sigma_c^{++} \to \Lambda_c^+ \pi^+$		$(3.2 \pm 1.5) \times 10^{-4}$		2265
$\Lambda_c^+ K^+ K^- \pi^-$		$(1.02 \pm 0.11) \times 10^{-3}$		2184
$\Lambda_c^+ p \overline{p} \pi^-$		$(2.63 \pm 0.27) \times 10^{-4}$		1805
$\Sigma_c(2455)^0 p \overline{p}$, $\Sigma_c^0 \to \Lambda_c^+ \pi^-$		$(2.3 \pm 0.5) \times 10^{-5}$		–
$\Sigma_c(2520)^0 p \overline{p}$, $\Sigma_c(2520)^0 \to \Lambda_c^+ \pi^-$		$(3.1 \pm 0.7) \times 10^{-5}$		–
$\Lambda_c^+ \ell^- \overline{\nu}_\ell$ 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
$\Lambda_c(2595)^+ \ell^- \overline{\nu}_\ell$		$(7.9 \, ^{+4.0}_{-3.5}) \times 10^{-3}$		2212
$\Lambda_c(2625)^+ \ell^- \overline{\nu}_\ell$		$(1.3 \, ^{+0.6}_{-0.5})$ %		2195
$p h^-$	[c]	$< 2.3 \times 10^{-5}$	CL=90%	2730
$p \pi^-$		$(4.5 \pm 0.8) \times 10^{-6}$		2730
$p K^-$		$(5.4 \pm 1.0) \times 10^{-6}$		2709
$p D_s^-$		$< 4.8 \times 10^{-4}$	CL=90%	2364
$p \mu^- \overline{\nu}_\mu$		$(4.1 \pm 1.0) \times 10^{-4}$		2730
$\Lambda \mu^+ \mu^-$		$(1.08 \pm 0.28) \times 10^{-6}$		2695
$p \pi^- \mu^+ \mu^-$		$(6.9 \pm 2.5) \times 10^{-8}$		2720
$p K^- e^+ e^-$		$(3.1 \pm 0.6) \times 10^{-7}$		2708
$p K^- \mu^+ \mu^-$		$(2.6 \, ^{+0.5}_{-0.4}) \times 10^{-7}$		2685
$\Lambda \gamma$		$(7.1 \pm 1.7) \times 10^{-6}$		2699
$\Lambda \eta$		$(9 \, ^{+7}_{-5}) \times 10^{-6}$		2670
$\Lambda \eta'(958)$		$< 3.1 \times 10^{-6}$	CL=90%	2611
$\Lambda \pi^+ \pi^-$		$(4.6 \pm 1.9) \times 10^{-6}$		2692
$\Lambda K^+ \pi^-$		$(5.6 \pm 1.2) \times 10^{-6}$		2660

$\Lambda K^+ K^-$	$(1.60 \pm 0.22) \times 10^{-5}$	2605
$\Lambda \phi$	$(9.8 \pm 2.6) \times 10^{-6}$	2599
$p \pi^- \pi^+ \pi^-$	$(2.09 \pm 0.21) \times 10^{-5}$	2715
$p K^- K^+ \pi^-$	$(4.0 \pm 0.6) \times 10^{-6}$	2612
$p K^- \pi^+ \pi^-$	$(5.0 \pm 0.5) \times 10^{-5}$	2675
$p K^- K^+ K^-$	$(1.25 \pm 0.13) \times 10^{-5}$	2524

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

Mass $m = 5912.19 \pm 0.17$ 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 $m = 5920.09 \pm 0.17$ 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.

$m(\Xi_b^-) = 5797.0 \pm 0.6$ MeV (S = 1.7)
$m_{\Xi_b^-} - m_{\Lambda_b^0} = 177.46 \pm 0.31$ MeV (S = 1.3)
$m_{\Xi_b^-} - m_{\Xi_b^0} = 5.9 \pm 0.6$ MeV
Mean life $\tau_{\Xi_b^-} = (1.572 \pm 0.040) \times 10^{-12}$ s

Ξ_b^- DECAY MODES	Fraction (Γ_i/Γ)	Confidence level	p (MeV/c)
$J/\psi\Xi^- \times$ B($b \to \ \Xi_b^-$)	$(1.02^{+0.26}_{-0.21}) \times 10^{-5}$		1782
$J/\psi\Lambda K^- \times$ B($b \to \ \Xi_b^-$)	$(2.5 \ \pm 0.4 \ ) \times 10^{-6}$		1631
$pK^-K^- \times$ B($b \to \ \Xi_b^-$)	$(3.7 \ \pm 0.8 \ ) \times 10^{-8}$		2731
pK^-K^-	seen		2731
$pK^-\pi^-$	seen		2783
$\Lambda_b^0\pi^- \times$ B($b \to \ \Xi_b^-$)/B($b \to \ \Lambda_b^0$)	$(5.7 \ \pm 2.0 \ ) \times 10^{-4}$		99
$\Xi_c^0\pi^-$	seen		2367
$\Sigma(1385)K^-$	$(2.6 \ \pm 2.3 \ ) \times 10^{-7}$		2707

$\Lambda(1405)K^-$	$(1.9 \pm 1.2) \times 10^{-7}$			2702
$\Lambda(1520)K^-$	$(7.6 \pm 3.2) \times 10^{-7}$			2673
$\Lambda(1670)K^-$	$(4.5 \pm 2.3) \times 10^{-7}$			2629
$\Sigma(1775)K^-$	$(2.2 \pm 1.5) \times 10^{-7}$			2599
$\Sigma(1915)K^-$	$(2.6 \pm 2.5) \times 10^{-7}$			2553
$\Xi^-\gamma$	< 1.3	$\times 10^{-4}$	95%	–

Ξ_b^0

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

$m(\Xi_b^0) = 5791.9 \pm 0.5$ MeV
$m_{\Xi_b^0} - m_{\Lambda_b^0} = 172.5 \pm 0.4$ MeV
Mean life $\tau_{\Xi_b^0} = (1.480 \pm 0.030) \times 10^{-12}$ s

Ξ_b^0 DECAY MODES	Fraction (Γ_i/Γ)	Confidence level	p (MeV/c)
$pD^0K^- \times$ B($b \to \Xi_b^0$)	$(1.7 \pm 0.5) \times 10^{-6}$		2374
$p\overline{K}^0\pi^- \times$ B($b \to \Xi_b^0$)/B($\overline{b} \to B^0$)	< 1.6 $\times 10^{-6}$	90%	2783
$pK^0K^- \times$ B($b \to \Xi_b^0$)/B($\overline{b} \to B^0$)	< 1.1 $\times 10^{-6}$	90%	2730
$\Lambda\pi^+\pi^- \times$ B($b \to \Xi_b^0$)/B($b \to \Lambda_b^0$)	< 1.7 $\times 10^{-6}$	90%	2781
$\Lambda K^-\pi^+ \times$ B($b \to \Xi_b^0$)/B($b \to \Lambda_b^0$)	< 8 $\times 10^{-7}$	90%	2751
$\Lambda K^+K^- \times$ B($b \to \Xi_b^0$)/B($b \to \Lambda_b^0$)	< 3 $\times 10^{-7}$	90%	2698
$J/\psi\Lambda$	seen		1868
$J/\psi\Xi^0$	seen		1785
$\Lambda_c^+K^- \times$ B($b \to \Xi_b^0$)	$(6 \pm 4) \times 10^{-7}$		2416
$pK^-\pi^+\pi^- \times$ B($b \to \Xi_b^0$)/B($b \to \Lambda_b^0$)	$(1.9 \pm 0.4) \times 10^{-6}$		2766
$pK^-K^-\pi^+ \times$ B($b \to \Xi_b^0$)/B($b \to \Lambda_b^0$)	$(1.71 \pm 0.31) \times 10^{-6}$		2704
$pK^-K^+K^- \times$ B($b \to \Xi_b^0$)/B($b \to \Lambda_b^0$)	$(1.7 \pm 1.0) \times 10^{-7}$		2620

$\Xi_b'(5935)^-$

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

Mass $m = 5935.02 \pm 0.05$ MeV
$m_{\Xi_b'(5935)^-} - m_{\Xi_b^0} - m_{\pi^-} = 3.653 \pm 0.019$ MeV
Full width $\Gamma < 0.08$ MeV, CL = 95%

$\Xi_b'(5935)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^0\pi^-\times$ B($\overline{b}\to$ $\Xi_b'(5935)^-$)/B($\overline{b}\to$ Ξ_b^0)	(11.8±1.8) %	31

$\Xi_b(5945)^0$

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

Mass $m = 5952.3 \pm 0.6$ MeV
Full width $\Gamma = 0.90 \pm 0.18$ MeV

$\Xi_b(5945)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^-\pi^+$	seen	78

$\Xi_b(5955)^-$

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

Mass $m = 5955.33 \pm 0.13$ MeV
$m_{\Xi_b(5955)^-} - m_{\Xi_b^0} - m_{\pi^-} = 23.96 \pm 0.13$ MeV
Full width $\Gamma = 1.65 \pm 0.33$ 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

$\Xi_b(6100)^-$

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

Mass $m = 6100.3 \pm 0.6$ MeV
$m_{\Xi_b(6100)^-} - m_{\Xi_b^-} - 2\,m_{\pi^\pm} = 24.14 \pm 0.24$ MeV
Full width $\Gamma < 1.9$ MeV, CL = 95%

$\Xi_b(6100)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\Xi_b^-\pi^+\pi^-$	seen	128

$\Xi_b(6227)^-$

$J^P = ?^?$

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($b\to$ Λ_b^0)	$(3.20\pm0.35)\times10^{-3}$		336
$\Xi_b^0\pi^-\times$ B($b\to$ $\Xi_b(6227)$)/B($b\to$ Ξ_b^0)	(2.8 ±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($b\to$ Ξ_b^-)	(4.5$\pm$0.9) %	398

$\Xi_b(6327)^0$

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

$\Xi_b(6333)^0$

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 $m = 6045.2 \pm 1.2$ MeV
$m_{\Omega_b^-} - m_{\Lambda_b^0} = 426.4 \pm 2.2$ MeV

$m_{\Omega_b^-} - m_{\Xi_b^-} = 247.3 \pm 3.2$ MeV
Mean life $\tau = (1.64^{+0.18}_{-0.17}) \times 10^{-12}$ s
$\tau(\Omega_b^-)/\tau(\Xi_b^-)$ mean life ratio $= 1.11 \pm 0.16$

Ω_b^- DECAY MODES	Fraction (Γ_i/Γ)	Confidence level	p (MeV/c)
$J/\psi\,\Omega^- \times$B($b \to\ \Omega_b$)	$(2.9^{+1.1}_{-0.8}) \times 10^{-6}$		1805
$pK^-K^- \times$B($\overline{b} \to\ \Omega_b$)	$< 2.3 \times 10^{-9}$	90%	2865
$p\pi^-\pi^- \times$B($\overline{b} \to\ \Omega_b$)	$< 1.5 \times 10^{-8}$	90%	2943
$pK^-\pi^- \times$B($\overline{b} \to\ \Omega_b$)	$< 7 \times 10^{-9}$	90%	2915
$\Omega_c^0\pi^-$	seen		2419
$\Omega_c^0\pi^-,\ \Omega_c^0 \to\ pK^-K^-\pi^+$	seen		–
$\Xi_c^+ K^-\pi^-$	seen		2472

$\Omega_b(6316)^-$

$I(J^P) = ?(?^?)$
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	248

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^-.