

Heavy Flavor Averaging Group

B^+ Branching Fractions (decays with kaons part 1) ($\times 10^6$) - May 2013. (UL 90% CL)
 In PDG2012 New since PDG2012 (preliminary) New since PDG2012 (published)

RPP#	Mode	PDG2012 Avg.	BABAR	Belle	CLEO	CDF	LHCb	New avg.
239	$K^0\pi^+$	23.1 ± 1.0	$23.9 \pm 1.1 \pm 1.0$	$23.97 \pm 0.53 \pm 0.71$	$18.8^{+3.7+2.1}_{-3.3-1.8}$			23.79 ± 0.75
240	$K^+\pi^0$	12.9 ± 0.6	$13.6 \pm 0.6 \pm 0.7$	$12.62 \pm 0.31 \pm 0.56$	$12.9^{+2.4+1.2}_{-2.2-1.1}$			$12.94^{+0.52}_{-0.51}$
241	$\eta'K^+$	70.6 ± 2.5	$71.5 \pm 1.3 \pm 3.2$	$69.2 \pm 2.2 \pm 3.7$	$80^{+10}_{-9} \pm 7$			71.1 ± 2.6
242	$\eta'K^{*+}$	$4.8^{+1.8}_{-1.6}$	$4.8^{+1.6}_{-1.4} \pm 0.8$	< 2.9	$11.1^{+12.7}_{-8.0}$			$5.0^{+1.8}_{-1.6}$
243	$\eta'K_0^*(1430)^+$	5.2 ± 2.1	$5.2 \pm 1.9 \pm 1.0$					5.2 ± 2.1
244	$\eta'K_2^*(1430)^+$	2.8 ± 0.5	$28.0^{+4.6}_{-4.3} \pm 2.6$					$28.0^{+5.3}_{-5.0}$
245	ηK^+	2.4 ± 0.4	$2.94^{+0.39}_{-0.34} \pm 0.21$	$2.12 \pm 0.23 \pm 0.11$	$2.2^{+2.8}_{-2.2}$			$2.36^{+0.22}_{-0.21}$
246	ηK^{*+}	19.3 ± 1.6	$18.9 \pm 1.8 \pm 1.3$	$19.3^{+2.0}_{-1.9} \pm 1.5$	$26.4^{+9.6}_{-8.2} \pm 3.3$			19.3 ± 1.6
247	$\eta K_0^*(1430)^+$	18 ± 4	$15.8 \pm 2.2 \pm 2.2$					15.8 ± 3.1
248	$\eta K_2^*(1430)^+$	9.1 ± 3.0	$9.1 \pm 2.7 \pm 1.4$					9.1 ± 3.0
249	$\eta(1295)K^+\dagger$	$2.9^{+0.8}_{-0.7}$	< 4.0					< 4.0
251	$\eta(1405)K^+\dagger$	< 1.2	< 1.2					< 1.2
252	$\eta(1475)K^+\dagger$	$13.8^{+2.1}_{-1.8}$	$13.8^{+1.8+1.0}_{-1.7-0.6}$					$13.8^{+2.1}_{-1.8}$
253	$f_1(1285)K^+$	< 2.0	< 2.0					< 2.0
254	$f_1(1420)K^+\dagger$	< 2.9	< 2.9					< 2.9
256	$\phi(1680)K^+\dagger$	< 3.4	< 3.4					< 3.4
257	ωK^+	6.7 ± 0.8	$6.3 \pm 0.5 \pm 0.3$	$8.1 \pm 0.6 \pm 0.6$	$3.2^{+2.4}_{-1.9} \pm 0.8$			6.7 ± 0.5
258	ωK^{*+}	< 7.4	< 7.4		< 87			< 7.4
260	$\omega K_0^*(1430)^+$	24 ± 5	$24.0 \pm 2.6 \pm 4.4$					24.0 ± 5.1
261	$\omega K_2^*(1430)^+$	21.5 ± 4.3	$21.5 \pm 3.6 \pm 2.4$					21.5 ± 4.3
262	$a_0(980)^+K^0\dagger$	< 3.9	< 3.9					< 3.9
263	$a_0(980)^0K^+\dagger$	< 2.5	< 2.5					< 2.5
264	$K^{*0}\pi^+$	10.1 ± 0.9	$10.8 \pm 0.6^{+1.2}_{-1.4}$	$9.7 \pm 0.6^{+0.8}_{-0.9}$	$7.6^{+3.5}_{-3.0} \pm 1.6$			$9.9^{+0.8}_{-0.9}$
265	$K^{*+}\pi^0$	8.2 ± 1.9	$8.2 \pm 1.5 \pm 1.1$		$7.1^{+11.4}_{-7.1} \pm 1.0$			8.2 ± 1.8
266	$K^+\pi^+\pi^-$	51 ± 2.9	$54.4 \pm 1.1 \pm 4.6$	$48.8 \pm 1.1 \pm 3.6$				51.0 ± 3.0
267	$K^+\pi^+\pi^-(NR)$	$16.3^{+2.1}_{-1.5}$	$9.3 \pm 1.0^{+6.9}_{-1.7}$	$16.9 \pm 1.3^{+1.7}_{-1.6}$	< 28			16.3 ± 2.0
269	$f_0(980)K^+\dagger$	$9.4^{+1.0}_{-1.2}$	$10.3 \pm 0.5^{+2.0}_{-1.4}$	$8.8 \pm 0.8^{+0.9}_{-1.8}$				$9.4^{+0.9}_{-1.0}$
270	$f_2(1270)^0K^+$	1.07 ± 0.27	$0.88 \pm 0.26^{+0.26}_{-0.21}$	$1.33 \pm 0.30^{+0.23}_{-0.34}$				$1.06^{+0.28}_{-0.29}$
271	$f_0(1370)^0K^+\dagger$	< 10.7	< 10.7					< 10.7
272	$\rho^0(1450)K^+$	< 11.7	< 11.7					< 11.7
273	$f_0(1500)K^+\dagger$	0.73 ± 0.52	$0.74 \pm 0.18 \pm 0.52$					0.74 ± 0.55
275	ρ^0K^+	3.7 ± 0.5	$3.56 \pm 0.45^{+0.57}_{-0.46}$	$3.89 \pm 0.47^{+0.43}_{-0.41}$	$8.4^{+4.0}_{-3.4} \pm 1.8$			$3.81^{+0.48}_{-0.46}$
276	$K_0^*(1430)^0\pi^+$	45^{+9}_{-7}	$32.0 \pm 1.2^{+10.8}_{-6.0}$	$51.6 \pm 1.7^{+7.0}_{-7.5}$				45.1 ± 6.3
277	$K_2^*(1430)^0\pi^+$	$5.6^{+2.2}_{-1.5}$	$5.6 \pm 1.2^{+1.8}_{-0.8}$	< 6.9				$5.6^{+2.2}_{-1.4}$
278	$K^*(1410)^0\pi^+$	< 45	< 45	< 45				< 45
279	$K^*(1680)^0\pi^+$	< 12	< 15	< 12				< 12
280	$K^+\pi^0\pi^0$	16.2 ± 1.9	$16.2 \pm 1.2 \pm 1.5$					16.2 ± 1.9
282	$K^-\pi^+\pi^+$	< 0.95	< 0.95	< 4.5				< 0.95
284	$K_1(1270)^0\pi^+$	< 40	< 40					< 40
285	$K_1(1400)^0\pi^+$	< 39	< 39					< 39
286	$K^0\pi^+\pi^0$	< 66			< 66			< 66
287	ρ^+K^0	8.0 ± 1.5	$8.0^{+1.4}_{-1.3} \pm 0.6$		< 48			$8.0^{+1.5}_{-1.4}$
288	$K^{*+}\pi^+\pi^-$	75 ± 10	$75.3 \pm 6.0 \pm 8.1$					75.3 ± 10.1
289	$K^{*+}\rho^0$	4.6 ± 1.1	$4.6 \pm 1.0 \pm 0.4$		< 74			4.6 ± 1.1
290	$f_0(980)K^{*+}\dagger$	4.2 ± 0.7	$4.2 \pm 0.6 \pm 0.3$					4.2 ± 0.7

† Product BF - daughter BF taken to be 100%;

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B^+ Branching Fractions (decays with kaons part 2) ($\times 10^6$) - May 2013. (UL 90% CL)
 In PDG2012 New since PDG2012 (preliminary) New since PDG2012 (published)

RPP#	Mode	PDG2012 Avg.	BABAR	Belle	CLEO	CDF	LHCb	New avg.
291	$a_1^+ K^0$	35 ± 7	$34.9 \pm 5.0 \pm 4.4$					34.9 ± 6.7
292	$b_1^+ K^0 \dagger$	9.6 ± 1.9	$9.6 \pm 1.7 \pm 0.9$					9.6 ± 1.9
293	$K^{*0} \rho^+$	9.2 ± 1.5	$9.6 \pm 1.7 \pm 1.5$	$8.9 \pm 1.7 \pm 1.2$				9.2 ± 1.5
296	$b_1^0 K^+ \dagger$	9.1 ± 2.0	$9.1 \pm 1.7 \pm 1.0$					9.1 ± 2.0
297	$b_1^+ K^{*0} \dagger$	< 5.9	< 5.9					< 5.9
298	$b_1^0 K^{*+} \dagger$	< 6.7	< 6.7					< 6.7
299	$K^+ \bar{K}^0$	1.36 ± 0.27	$1.61 \pm 0.44 \pm 0.09$	$1.11 \pm 0.19 \pm 0.05$	< 3.3			1.19 ± 0.18
300	$\bar{K}^0 K^+ \pi^0$	< 24			< 24			< 24
301	$K^+ K_S K_S$	11.5 ± 1.3	$10.6 \pm 0.5 \pm 0.3$	$13.4 \pm 1.9 \pm 1.5$				10.8 ± 0.6
302	$K_S K_S \pi^+$	< 0.51	< 0.51	< 3.2				< 0.51
303	$K^+ K^- \pi^+$	5.0 ± 0.7	$5.0 \pm 0.5 \pm 0.5$	< 13				5.0 ± 0.7
305	$\bar{K}^{*0} K^+$	< 1.1	< 1.1		< 5.3			< 1.1
306	$\bar{K}_0^*(1430)^0 K^+$	< 2.2	< 2.2					< 2.2
307	$K^+ K^+ \pi^-$	< 0.16	< 0.16	< 2.4				< 0.16
310	$K^{*+} \pi^+ K^-$	< 11.8	< 11.8					< 11.8
311	$K^{*+} \bar{K}^{*0}$	1.2 ± 0.5	$1.2 \pm 0.5 \pm 0.1$		< 71			1.2 ± 0.5
312	$K^{*+} K^+ \pi^-$	< 6.1	< 6.1					< 6.1
313	$K^+ K^- K^+$	33.7 ± 2.2	$34.6 \pm 0.6 \pm 0.9$	$30.6 \pm 1.2 \pm 2.3$				34.0 ± 1.0
314	ϕK^+	8.3 ± 0.7	$9.2 \pm 0.4^{+0.7}_{-0.5}$	$9.6 \pm 0.9^{+1.1}_{-0.8}$	$5.5^{+2.1}_{-1.8} \pm 0.6$	$7.6 \pm 1.3 \pm 0.6$		8.8 ± 0.5
316	$a_2(1320) K^+ \dagger$	< 1.1		< 1.1				< 1.1
317	$f_2'(1525) K^+$	< 4.9	$1.56 \pm 0.36 \pm 0.30$	$< 4.9 \dagger$				1.56 ± 0.47
319	$\phi(1680) K^+ \dagger$	< 0.8		< 0.8				< 0.8
320	$f_0(1710) K^+ \dagger$	1.7 ± 1.0	$1.12 \pm 0.25 \pm 0.50$					1.12 ± 0.56
322	$K^{*+} K^+ K^-$	36 ± 5	$36.2 \pm 3.3 \pm 3.6$					36.2 ± 4.9
323	ϕK^{*+}	10.0 ± 2.0	$11.2 \pm 1.0 \pm 0.9$	$6.7^{+2.1+0.7}_{-1.9-1.0}$	$10.6^{+6.4+1.8}_{-4.9-1.6}$			10.0 ± 1.1
325	$\phi K_1(1270)^+$	6.1 ± 1.9	$6.1 \pm 1.6 \pm 1.1$					6.1 ± 1.9
326	$\phi K_1(1400)^+$	< 3.2	< 3.2					< 3.2
327	$\phi K^*(1410)^+$	< 4.3	< 4.3					< 4.3
328	$\phi K_0^*(1430)^+$	7.0 ± 1.6	$7.0 \pm 1.3 \pm 0.9$					7.0 ± 1.6
329	$\phi K_2^*(1430)^+$	8.4 ± 2.1	$8.4 \pm 1.8 \pm 1.0$					8.4 ± 2.1
330	$\phi K_2(1770)^+$	< 15	< 15					< 15
331	$\phi K_2(1820)^+$	< 16	< 16					< 16
332	$a_1^+ K^{*0}$	< 3.6	< 3.6					< 3.6
333	$\phi \phi K^+ \S$	5.0 ± 1.2	$5.6 \pm 0.5 \pm 0.3$					5.6 ± 0.6
334	$\eta' \eta' K^+$	< 25	< 25					< 25
335	$K^+ \omega \phi$	< 1.9		< 1.9				< 1.9
336	$K^+ X(1812) \dagger$	< 0.32		< 0.32				< 0.32

\dagger Product BF - daughter BF taken to be 100%; $\S M_{\phi\phi} < 2.85 \text{ GeV}/c^2$

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B^+ Branching Fractions (decays without kaons) ($\times 10^6$) - May 2013. (UL 90% CL)

In PDG2012 New since PDG2012 (preliminary) New since PDG2012 (published)

RPP#	Mode	PDG2012 Avg.	BABAR	Belle	CLEO	CDF	LHCb	New avg.
353	$\pi^+\pi^0$	5.7 ± 0.5	$5.02 \pm 0.46 \pm 0.29$	$5.86 \pm 0.26 \pm 0.38$	$4.6_{-1.6}^{+1.8+0.6}$			$5.48_{-0.34}^{+0.35}$
354	$\pi^+\pi^+\pi^-$	15.2 ± 1.4	$15.2 \pm 0.6 \pm 1.3$					15.2 ± 1.4
355	$\rho^0\pi^+$	8.3 ± 1.2	$8.1 \pm 0.7_{-1.6}^{+1.3}$	$8.0_{-2.0}^{+2.3} \pm 0.7$	$10.4_{-3.4}^{+3.3} \pm 2.1$			$8.3_{-1.3}^{+1.2}$
356	$f_0(980)\pi^+ \dagger$	< 1.5	< 1.5					< 1.5
357	$f_2(1270)\pi^+$	$1.6_{-0.4}^{+0.7}$	$1.57 \pm 0.42_{-0.25}^{+0.55}$					$1.57_{-0.49}^{+0.69}$
358	$\rho(1450)^0\pi^+ \dagger$	$1.4_{-0.9}^{+0.6}$	$1.4 \pm 0.4_{-0.8}^{+0.5}$					$1.4_{-0.9}^{+0.6}$
359	$f_0(1370)\pi^+ \dagger$	< 4.0	< 4.0					< 4.0
361	$\pi^+\pi^-\pi^+(NR)$	$5.3_{-1.1}^{+1.5}$	$5.3 \pm 0.7_{-0.8}^{+1.3}$					$5.3_{-1.1}^{+1.5}$
363	$\rho^+\pi^0$	10.9 ± 1.4	$10.2 \pm 1.4 \pm 0.9$	$13.2 \pm 2.3_{-1.9}^{+1.4}$	< 43			$10.9_{-1.5}^{+1.4}$
365	$\rho^+\rho^0$	24.0 ± 1.9	$23.7 \pm 1.4 \pm 1.4$	$31.7 \pm 7.1_{-6.7}^{+3.8}$				$24.0_{-2.0}^{+1.9}$
366	$f_0(980)\rho^+ \dagger$	< 2.0	< 2.0					< 2.0
367	$a_1^+\pi^0$	26 ± 7	$26.4 \pm 5.4 \pm 4.1$					26.4 ± 6.8
368	$a_1^0\pi^+$	20 ± 6	$20.4 \pm 4.7 \pm 3.4$					20.4 ± 5.8
369	$\omega\pi^+$	6.9 ± 0.5	$6.7 \pm 0.5 \pm 0.4$	$6.9 \pm 0.6 \pm 0.5$	$11.3_{-2.9}^{+3.3} \pm 1.4$			6.9 ± 0.5
370	$\omega\rho^+$	15.9 ± 2.1	$15.9 \pm 1.6 \pm 1.4$		< 61			15.9 ± 2.1
371	$\eta\pi^+$	4.02 ± 0.27	$4.00 \pm 0.40 \pm 0.24$	$4.07 \pm 0.26 \pm 0.21$	$1.2_{-1.2}^{+2.8}$			4.02 ± 0.27
372	$\eta\rho^+$	7.0 ± 2.9	$9.9 \pm 1.2 \pm 0.8$	$4.1_{-1.3}^{+1.4} \pm 0.4$	$4.8_{-3.8}^{+5.2}$			6.9 ± 1.0
373	$\eta'\pi^+$	2.7 ± 0.9	$3.5 \pm 0.6 \pm 0.2$	$1.8_{-0.6}^{+0.7} \pm 0.1$	$1.0_{-1.0}^{+5.8}$			$2.7_{-0.4}^{+0.5}$
374	$\eta'\rho^+$	9.7 ± 2.2	$9.7_{-1.8}^{+1.9} \pm 1.1$	< 5.8	$11.2_{-7.0}^{+11.9}$			$9.8_{-2.0}^{+2.1}$
375	$\phi\pi^+$	< 0.24	< 0.24	< 0.33	< 5			< 0.24
376	$\phi\rho^+$	< 3.0	< 3.0		< 16			< 3.0
377	$a_0(980)^0\pi^+ \dagger$	< 5.8	< 5.8					< 5.8
378	$a_0(980)^+\pi^0 \dagger$	< 1.4	< 1.4					< 1.4
382	$b_1^0\pi^+ \dagger$	6.7 ± 2.0	$6.7 \pm 1.7 \pm 1.0$					6.7 ± 2.0
383	$b_1^+\pi^0 \dagger$	< 3.3	< 3.3					< 3.3
385	$b_1^+\rho^0 \dagger$	< 5.2	< 5.2					< 5.2
387	$b_1^0\rho^+ \dagger$	< 3.3	< 3.3					< 3.3

† Product BF - daughter BF taken to be 100%;

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RPP#	Mode	PDG2012 Avg.	BABAR	Belle	CLEO	CDF	LHCb	New avg.
214	$K^+\pi^-$	19.4 ± 0.6	$19.1 \pm 0.6 \pm 0.6$	$20.0 \pm 0.34 \pm 0.60$	$18.0^{+2.3+1.2}_{-2.1-0.9}$			$19.57^{+0.53}_{-0.52}$
215	$K^0\pi^0$	9.5 ± 0.8	$10.1 \pm 0.6 \pm 0.4$	$9.68 \pm 0.46 \pm 0.50$	$12.8^{+4.0+1.7}_{-3.3-1.4}$			9.93 ± 0.49
216	$\eta'K^0$	66 ± 4	$68.5 \pm 2.2 \pm 3.1$	$58.9^{+3.6}_{-3.5} \pm 4.3$	$89^{+18}_{-16} \pm 9$			66.1 ± 3.1
217	$\eta'K^{*0}$	3.1 ± 0.9	$3.1^{+0.9}_{-0.8} \pm 0.3$	< 2.6	$7.8^{+7.7}_{-5.7}$			3.1 ± 0.9
218	$\eta'K_0^*(1430)^0$	6.3 ± 1.6	$6.3 \pm 1.3 \pm 0.9$					6.3 ± 1.6
219	$\eta'K_2^*(1430)^0$	13.7 ± 3.2	$13.7^{+3.0}_{-1.9} \pm 1.2$					$13.7^{+3.2}_{-2.2}$
220	ηK^0	$1.23^{+0.27}_{-0.24}$	$1.15^{+0.43}_{-0.38} \pm 0.09$	$1.27^{+0.33}_{-0.29} \pm 0.08$	$0.0^{+3.0}_{-0.0}$			$1.23^{+0.27}_{-0.24}$
221	ηK^{*0}	15.9 ± 1.0	$16.5 \pm 1.1 \pm 0.8$	$15.2 \pm 1.2 \pm 1.0$	$13.8^{+5.5}_{-4.6} \pm 1.6$			15.9 ± 1.0
222	$\eta K_0^*(1430)^0$	11.0 ± 2.2	$9.6 \pm 1.4 \pm 1.3$					9.6 ± 1.9
223	$\eta K_2^*(1430)^0$	9.6 ± 2.1	$9.6 \pm 1.8 \pm 1.1$					9.6 ± 2.1
224	ωK^0	5.0 ± 0.6	$5.4 \pm 0.8 \pm 0.3$	$4.4^{+0.8}_{-0.7} \pm 0.4$	$10.0^{+5.4}_{-4.2} \pm 1.4$			5.0 ± 0.6
225	$a_0(980)^0 K^0 \dagger$	< 7.8	< 7.8					< 7.8
226	$b_1^0 K^0 \dagger$	< 7.8	< 7.8					< 7.8
227	$a_0(980)^- K^+ \dagger$	< 1.9	< 1.9					< 1.9
228	$b_1^- K^+ \dagger$	7.4 ± 1.4	$7.4 \pm 1.0 \pm 1.0$					7.4 ± 1.4
229	$b_1^0 K^{*0} \dagger$	< 8.0	< 8.0					< 8.0
230	$b_1^- K^{*+} \dagger$	< 5.0	< 5.0					< 5.0
231	$a_0(1450)^- K^+ \dagger$	< 3.1	< 3.1					< 3.1
233	ωK^{*0}	2.0 ± 0.5	$2.2 \pm 0.6 \pm 0.2$	$1.8 \pm 0.7^{+0.3}_{-0.2}$	< 23			2.0 ± 0.5
235	$\omega K_0^*(1430)^0$	16.0 ± 3.4	$16.0 \pm 1.6 \pm 3.0$					16.0 ± 3.4
236	$\omega K_2^*(1430)^0$	10.1 ± 2.3	$10.1 \pm 2.0 \pm 1.1$					10.1 ± 2.3
237	$\omega K^+\pi^- (NR)^1$	5.1 ± 1.0		$5.1 \pm 0.7 \pm 0.7$				5.1 ± 1.0
238	$K^+\pi^-\pi^0$	37.8 ± 3.2	$38.5 \pm 1.0 \pm 3.9$	$36.6^{+4.2}_{-4.3} \pm 3.0$	< 40			37.8 ± 3.2
239	$\rho^- K^+$	7.0 ± 0.9	$6.6 \pm 0.5 \pm 0.8$	$15.1^{+3.4+2.4}_{-3.3-2.6}$	$16^{+8}_{-6} \pm 3$			7.2 ± 0.9
240	$\rho(1450)^- K^+$	2.4 ± 1.2	$2.4 \pm 1.0 \pm 0.6$					2.4 ± 1.2
241	$\rho(1700)^- K^+$	0.6 ± 0.7	$0.6 \pm 0.6 \pm 0.4$					0.6 ± 0.7
242	$K^+\pi^-\pi^0 (NR)$	2.8 ± 0.6	$2.8 \pm 0.5 \pm 0.4$	< 9.4				2.8 ± 0.6
245	$K_2^*(1430)^0\pi^0$	< 4.0	< 4.0					< 4.0
246	$K^*(1680)^0\pi^0$	< 7.5	< 7.5					< 7.5
248	$K^0\pi^+\pi^-$	49.6 ± 2.0	$50.2 \pm 1.5 \pm 1.8$	$47.5 \pm 2.4 \pm 3.7$	$50^{+10}_{-9} \pm 7$			49.6 ± 2.0
249	$K^0\pi^+\pi^- (NR)$	$14.7^{+4.0}_{-2.6}$	$11.1^{+2.5}_{-1.0} \pm 0.9$	$19.9 \pm 2.5^{+1.7}_{-2.0}$				14.7 ± 2.0
250	$\rho^0 K^0$	4.7 ± 0.6	$4.4 \pm 0.7 \pm 0.3$	$6.1 \pm 1.0^{+1.1}_{-1.2}$	< 39			4.7 ± 0.7
251	$K^{*+}\pi^-$	$9.4^{+1.3}_{-1.2}$	8.4 ± 0.8	$8.4 \pm 1.1^{+1.0}_{-0.9}$	$16^{+6}_{-5} \pm 2$			8.5 ± 0.7
252	$K_0^*(1430)^+\pi^-$	33 ± 7	$29.9^{+2.3}_{-1.7} \pm 3.6$	$49.7 \pm 3.8^{+6.8}_{-8.2}$				$33.5^{+3.9}_{-3.8}$
254	$K^*(1410)^+\pi^- \dagger$	< 3.8		< 86				< 86
255	$f_0(980)K^0 \dagger$	7.0 ± 0.9	$6.9 \pm 0.8 \pm 0.6$	$7.6 \pm 1.7^{+0.9}_{-1.3}$				7.0 ± 0.9
256	$f_2(1270)^0 K^0$	$2.7^{+1.3}_{-1.2}$	$2.7^{+1.0}_{-0.8} \pm 0.9$	$< 2.5 \dagger$				$2.7^{+1.3}_{-1.2}$

\dagger Product BF - daughter BF taken to be 100%; \ddagger Relative BF converted to absolute BF; $^1 0.755 < M(K\pi) < 1.250$ GeV/ c^2 ;

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RPP#	Mode	PDG2012 Avg.	BABAR	Belle	CLEO	CDF	LHCb	New avg.
258	$K^{*0}\pi^0$	3.3 ± 0.6	$3.3 \pm 0.5 \pm 0.4$	$0.4^{+1.9}_{-1.7} \pm 0.1$	$0.0^{+1.3+0.5}_{-0.0-0.0}$			2.5 ± 0.6
259	$K_2^*(1430)^+\pi^-$	< 6.3	< 16.2	< 6.3				< 6.3
260	$K^*(1680)^+\pi^-$	< 10	< 25	< 10.1				< 10.1
262	$\rho^0 K^+\pi^-$	2.8 ± 0.7		$2.8 \pm 0.5 \pm 0.5^2$				2.8 ± 0.7
263	$f_0(980)K^+\pi^-$	$1.4^{+0.5}_{-0.6}$		$1.4 \pm 0.4^{+0.3}_{-0.4}{}^2$				$1.4^{+0.5}_{-0.6}$
264	$K^+\pi^-\pi^+\pi^-$	< 2.1		< 2.1				< 2.1
265	$K^{*0}\pi^+\pi^-$	55 ± 5	$54.5 \pm 2.9 \pm 4.3$					54.5 ± 5.2
266	$K^{*0}\rho^0$	$3.4^{+1.7}_{-1.3}$	$5.1 \pm 0.6^{+0.6}_{-0.8}$	$2.1^{+0.8+0.9}_{-0.7-0.5}$	< 34			3.9 ± 0.8
267	$f_0(980)K^{*0} \dagger$	< 2.2	$5.7 \pm 0.6 \pm 0.4$	< 2.2				5.7 ± 0.7
—	$f_0(980)K_2^*(1430)^0 \dagger$	New	$8.6 \pm 1.7 \pm 1.0$					8.6 ± 2.0
268	$K_1(1270)^+\pi^-$	< 30	17^{+8}_{-11}					17^{+8}_{-11}
269	$K_1(1400)^+\pi^-$	< 27	17^{+7}_{-9}					17^{+7}_{-9}
270	$a_1^- K^+$	16 ± 4	$16.3 \pm 2.9 \pm 2.3$					16.3 ± 3.7
271	$K^{*+}\rho^-$	< 12	$10.3 \pm 2.3 \pm 1.3$					10.3 ± 2.6
273	K^+K^-	< 0.41	$0.04 \pm 0.15 \pm 0.08$	$0.10 \pm 0.08 \pm 0.04$	< 0.8	$0.23 \pm 0.10 \pm 0.10 \ddagger$	$0.11^{+0.05}_{-0.04} \pm 0.06 \ddagger$	0.12 ± 0.05
274	$K^0\bar{K}^0$	$0.96^{+0.20}_{-0.18}$	$1.08 \pm 0.28 \pm 0.11$	$1.26 \pm 0.19 \pm 0.05$	< 3.3			1.21 ± 0.16
275	$K^0 K^- \pi^+$	6.4 ± 1.2	$6.4 \pm 1.0 \pm 0.6$	< 18	< 21		$5.8 \pm 0.9 \pm 0.9$	6.1 ± 0.9
276	$K^{*0}\bar{K}^0$	< 1.9	< 1.9					< 1.9
277	$K^+K^-\pi^0$	< 19		$2.17 \pm 0.60 \pm 0.24$	< 19			2.17 ± 0.65
278	$K_S K_S \pi^0$	< 0.9	< 0.9					< 0.9
279	$K_S K_S \eta$	< 1.0	< 1.0					< 1.0
280	$K_S K_S \eta'$	< 2.0	< 2.0					< 2.0
281	$K^+K^-K^0$	24.7 ± 2.3	$26.5 \pm 0.9 \pm 0.8$	$28.3 \pm 3.3 \pm 4.0$			$26.3 \pm 2.0 \pm 2.3$	26.6 ± 1.1
282	ϕK^0	$8.6^{+1.3}_{-1.1}$	$7.1 \pm 0.6^{+0.4}_{-0.3}$	$9.0^{+2.2}_{-1.8} \pm 0.7$	$5.4^{+3.7}_{-2.7} \pm 0.7$			$7.3^{+0.7}_{-0.6}$
—	$f_0(1500)K^0 \dagger$	New	$13.3^{+5.8}_{-4.4} \pm 3.2$					$13.3^{+6.6}_{-5.4}$
—	$f_2'(1525)K^0$	New	$0.29^{+0.27}_{-0.18} \pm 0.36$					$0.29^{+0.45}_{-0.40}$
—	$f_0(1710)K^0 \dagger$	New	$4.4 \pm 0.7 \pm 0.5$					4.4 ± 0.9
283	$K_S K_S K_S$	$6.2^{+1.2}_{-1.1}$	$6.19 \pm 0.48 \pm 0.19$	$4.2^{+1.6}_{-1.3} \pm 0.8$				6.04 ± 0.50
—	$f_0(1710)K_S \dagger$	New	$0.50^{+0.46}_{-0.24} \pm 0.11 \dagger$					$0.50^{+0.47}_{-0.26}$
—	$f_0(2010)K_S \dagger$	New	$0.54^{+0.21}_{-0.20} \pm 0.52 \dagger$					0.54 ± 0.56
284	$K_S K_S K_L$	< 16	$< 16^2$					$< 16^2$
285	$K^{*0}K^+K^-$	27.5 ± 2.6	$27.5 \pm 1.3 \pm 2.2$					27.5 ± 2.6
286	ϕK^{*0}	9.8 ± 0.6	$9.7 \pm 0.5 \pm 0.6$	$10.0^{+1.6+0.7}_{-1.5-0.8}$	$11.5^{+4.5+1.8}_{-3.7-1.7}$			9.8 ± 0.7
287	$K^+\pi^-\pi^+K^-$	< 72		$< 72^3$				$< 72^3$
288	$K^{*0}\pi^+K^-$	4.5 ± 1.3	$4.6 \pm 1.1 \pm 0.8$	$< 13.9^3$				4.6 ± 1.4
289	$K^{*0}\bar{K}^{*0}$	0.8 ± 0.5	$1.28^{+0.35}_{-0.30} \pm 0.11$	$0.26^{+0.33+0.10}_{-0.29-0.08}$	< 22			0.81 ± 0.23
290	$K^+\pi^-K^+\pi^-$	< 6.0		$< 6.0^3$				$< 6.0^3$
291	$K^{*0}K^+\pi^-$	< 2.2	< 2.2	$< 7.6^3$				< 2.2
292	$K^{*0}K^{*0}$	< 0.2	< 0.41	< 0.2	< 37			< 0.2
293	$K^{*+}K^{*-}$	< 2.0	< 2.0		< 141			< 2.0
297	$K_0^*(1430)^0\pi^+K^-$	< 31.8		$< 31.8^3$				$< 31.8^3$
298	$K_0^*(1430)^0\bar{K}^{*0}$	< 3.3		< 3.3				< 3.3
299	$K_0^*(1430)^0\bar{K}_0^*(1430)^0$	< 8.4		< 8.4				< 8.4
300	$\phi K_0^*(1430)^0$	3.9 ± 0.8	$3.9 \pm 0.5 \pm 0.6$					3.9 ± 0.8
301	$K_0^*(1430)^0K^{*0}$	< 1.7		< 1.7				< 1.7
302	$K_0^*(1430)^0K_0^*(1430)^0$	< 4.7		< 4.7				< 4.7
303	$\phi K^*(1680)^0$	< 3.5	< 3.5					< 3.5
304	$\phi K_3^*(1780)^0$	< 2.7	< 2.7					< 2.7
305	$\phi K_4^*(2045)^0$	< 15.3	< 15.3					< 15.3
307	$\phi K_2^*(1430)^0$	7.5 ± 1.0	$7.5 \pm 0.9 \pm 0.5$					7.5 ± 1.0
308	$\phi\phi K^0 \S$	4.5 ± 0.9	$4.5 \pm 0.8 \pm 0.3$					4.5 ± 0.9
309	$\eta'\eta'K^0$	< 31	< 31					< 31

\dagger Product BF - daughter BF taken to be 100%, $\S M_{\phi\phi} < 2.85 \text{ GeV}/c^2$ \ddagger Relative BF converted to absolute BF $^{10.55} < M(\pi\pi) < 1.42 \text{ GeV}/c^2$; $^{20.75} < M(K\pi) < 1.20 \text{ GeV}/c^2$; $^{30.70} < M(K\pi) < 1.70 \text{ GeV}/c^2$

Heavy Flavor Averaging Group

B^0 Branching Fractions (decays without kaons) ($\times 10^6$) - May 2013. (UL 90% CL)
 In PDG2012 New since PDG2012 (preliminary) New since PDG2012 (published)

RPP#	Mode	PDG2012 Avg.	BABAR	Belle	CLEO	CDF	LHCb	New avg.
330	$\pi^+\pi^-$	5.15 ± 0.22	$5.5 \pm 0.4 \pm 0.3$	$5.04 \pm 0.21 \pm 0.18$	$4.5^{+1.4+0.5}_{-1.2-0.4}$	$5.02 \pm 0.33 \pm 0.35\ddagger$	$5.08 \pm 0.17 \pm 0.37\ddagger$	5.10 ± 0.19
331	$\pi^0\pi^0$	1.62 ± 0.31	$1.83 \pm 0.21 \pm 0.13$	$2.3^{+0.4+0.2}_{-0.5-0.3}$	< 4.4			$1.91^{+0.22}_{-0.23}$
332	$\eta\pi^0$	< 1.5	< 1.5	< 2.5	< 2.9			< 1.5
333	$\eta\eta$	< 1.0	< 1.0	< 2.0	< 18			< 1.0
334	$\eta'\pi^0$	1.2 ± 0.6	$0.9 \pm 0.4 \pm 0.1$	$2.8 \pm 1.0 \pm 0.3$	$0.0^{+1.8}_{-0.0}$			1.2 ± 0.4
335	$\eta'\eta'$	< 1.7	< 1.7	< 6.5	< 47			< 1.7
336	$\eta'\eta$	< 1.2	< 1.2	< 4.5	< 27			< 1.2
337	$\eta'\rho^0$	< 1.3	< 2.8	< 1.3	< 12			< 1.3
338	$f_0(980)\eta' \dagger$	< 0.9	< 0.9					< 0.9
339	$\eta\rho^0$	< 1.5	< 1.5	< 1.9	< 10			< 1.5
340	$f_0(980)\eta \dagger$	< 0.4	< 0.4					< 0.4
341	$\omega\eta$	$0.94^{+0.40}_{-0.31}$	< 1.4		< 12			< 1.4
342	$\omega\eta'$	$1.0^{+0.5}_{-0.4}$	< 1.8	< 2.2	< 60			< 1.8
343	$\omega\rho^0$	< 1.6	< 1.6		< 11			< 1.6
344	$f_0(980)\omega \dagger$	< 1.5	< 1.5					< 1.5
345	$\omega\omega$	< 4.0	< 4.0		< 19			< 4.0
346	$\phi\pi^0$	< 0.28	< 0.28	< 0.15	< 5			< 0.15
347	$\phi\eta$	< 0.5	< 0.5		< 9			< 0.5
348	$\phi\eta'$	< 0.5	< 1.1	< 0.5	< 31			< 0.5
349	$\phi\rho^0$	< 0.33	< 0.33		< 13			< 0.33
350	$f_0(980)\phi \dagger$	< 0.38	< 0.38					< 0.38
351	$\omega\phi$	< 1.2	< 1.2		< 21			< 1.2
352	$\phi\phi$	< 0.2	< 0.2		< 12			< 0.2
353	$a_0^\mp(980)\pi^\pm \dagger$	< 3.1	< 3.1					< 3.1
354	$a_0^\mp(1450)\pi^\pm \dagger$	< 2.3	< 2.3					< 2.3
356	$\rho^0\pi^0$	2.0 ± 0.5	$1.4 \pm 0.6 \pm 0.3$	$3.0 \pm 0.5 \pm 0.7$	$1.6^{+2.0}_{-1.4} \pm 0.8$			2.0 ± 0.5
357	$\rho^\mp\pi^\pm$	23.0 ± 2.3	$22.6 \pm 1.8 \pm 2.2$	$22.6 \pm 1.1 \pm 4.4$	$27.6^{+8.4}_{-7.4} \pm 4.2$			23.0 ± 2.3
358	$\pi^+\pi^-\pi^+\pi^-$	< 19.3	< 23.1	< 19.3				< 19.3
359	$\rho^0\pi^+\pi^-(NR)$	< 8.8	< 8.8	< 12				< 8.8
360	$\rho^0\rho^0$	0.73 ± 0.28	$0.92 \pm 0.32 \pm 0.14$	$0.4 \pm 0.4^{+0.2}_{-0.3}$	< 18			$0.73^{+0.27}_{-0.28}$
361	$f_0(980)\pi^+\pi^-(NR)$	< 3.8		< 3.8				< 3.8
362	$f_0(980)\rho^0 \dagger$	< 0.3	< 0.40	< 0.3				< 0.3
363	$f_0(980)f_0(980) \dagger$	< 0.1	< 0.19	< 0.1				< 0.1
365	$a_1^\mp\pi^\pm$	33 ± 5	$33.2 \pm 3.8 \pm 3.0$	$22.2 \pm 2.0 \pm 2.8$				25.9 ± 2.8
366	$a_2^\mp\pi^\pm$	< 300		< 3.1				< 3.1
368	$\rho^+\rho^-$	24.2 ± 3.1	$25.5 \pm 2.1^{+3.6}_{-3.9}$	$22.8 \pm 3.8^{+2.3}_{-2.6}$				$24.2^{+3.1}_{-3.2}$
370	$\omega\pi^0$	< 0.5	< 0.5	< 2.0	< 5.5			< 0.5
372	$a_1^\pm\rho^\mp$	< 61	< 61					< 61
374	$b_1^\mp\pi^\pm \dagger$	10.9 ± 1.5	$10.9 \pm 1.2 \pm 0.9$					10.9 ± 1.5
375	$b_1^0\pi^0 \dagger$	< 1.9	< 1.9					< 1.9
376	$b_1^\pm\rho^\mp \dagger$	< 1.4	< 1.4					< 1.4
377	$b_1^0\rho^0 \dagger$	< 3.4	< 3.4					< 3.4
379	$a_1^\pm a_1^\mp$	47.3 ± 12.2	$47.3 \pm 10.5 \pm 6.3$					47.3 ± 12.2

\dagger Product BF - daughter BF taken to be 100%, \ddagger Relative BF converted to absolute BF

Heavy Flavor Averaging Group
May 2013

Compilation of B^0 Relative Branching Fractions (UL 90% CL)

In PDG2012 **New since PDG2012 (preliminary)** **New since PDG2012 (published)**

RPP#	Mode	PDG2012 Avg.	CDF	DØ	New avg.
273	$\mathcal{B}(B^0 \rightarrow K^+K^-)/\mathcal{B}(B^0 \rightarrow K^+\pi^-)$		0.012 ± 0.005 ± 0.005		0.012 ± 0.007
330	$\mathcal{B}(B^0 \rightarrow \pi^+\pi^-)/\mathcal{B}(B^0 \rightarrow K^+\pi^-)$		0.259 ± 0.017 ± 0.016		0.259 ± 0.023

Charmless Mesonic Decays:

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