

# Heavy Flavor Averaging Group

$B^+$  Branching Fractions (decays with kaons) ( $\times 10^6$ ) - April 2008. (UL 90% CL)  
 In PDG2006    New since PDG2006 (preliminary)    New since PDG2006 (published)

RPP#	Mode	PDG2006 Avg.	BABAR	Belle	CLEO	CDF	New avg.
182	$K^0\pi^+$	$24.1 \pm 1.7$	$23.9 \pm 1.1 \pm 1.0$	$22.8^{+0.8}_{-0.7} \pm 1.3$	$18.8^{+3.7+2.1}_{-3.3-1.8}$		$23.1 \pm 1.0$
183	$K^+\pi^0$	$12.1 \pm 0.8$	$13.6 \pm 0.6 \pm 0.7$	$12.4 \pm 0.5 \pm 0.6$	$12.9^{+2.4+1.2}_{-2.2-1.1}$		$12.9 \pm 0.6$
184	$\eta'K^+$	$70.5 \pm 3.5$	$70.0 \pm 1.5 \pm 2.8$	$69.2 \pm 2.2 \pm 3.7$	$80^{+10}_{-9} \pm 7$		$70.2 \pm 2.5$
185	$\eta'K^{*+}$	$< 14$	$4.9^{+1.9}_{-1.7} \pm 0.8$	$< 2.9$	$11.1^{+12.7}_{-8.0}$		$4.9^{+2.1}_{-1.9}$
186	$\eta K^+$	$2.6 \pm 0.6$	$3.7 \pm 0.4 \pm 0.1$	$1.9 \pm 0.3^{+0.2}_{-0.1}$	$2.2^{+2.8}_{-2.2}$		$2.7 \pm 0.3$
187	$\eta K^{*+}$	$26 \pm 4$	$18.9 \pm 1.8 \pm 1.3$	$19.3^{+2.0}_{-1.9} \pm 1.5$	$26.4^{+9.6}_{-8.2} \pm 3.3$		$19.3 \pm 1.6$
–	$\eta K_0^{*+}(1430)$	New	$15.8 \pm 2.2 \pm 2.2$				$15.8 \pm 3.1$
–	$\eta K_2^{*+}(1430)$	New	$9.1 \pm 2.7 \pm 1.4$				$9.1 \pm 3.0$
188	$\omega K^+$	$5.1 \pm 0.7$	$6.3 \pm 0.5 \pm 0.3$	$8.1 \pm 0.6 \pm 0.6$	$3.2^{+2.4}_{-1.9} \pm 0.8$		$6.7 \pm 0.5$
189	$\omega K^{*+}$	$< 7.4$	$< 3.4$		$< 87$		$< 3.4$
190	$a_0^+(980)K^0 \dagger$	$< 3.9$	$< 3.9$				$< 3.9$
191	$a_0^0(980)K^+ \dagger$	$< 2.5$	$< 2.5$				$< 2.5$
192	$K^{*0}\pi^+$	$11.6 \pm 1.9$	$10.8 \pm 0.6^{+1.1}_{-1.3}$	$9.7 \pm 0.6^{+0.8}_{-0.9}$	$7.6^{+3.5}_{-3.0} \pm 1.6$		$10.0 \pm 0.8$
193	$K^{*+}\pi^0$	$6.9 \pm 2.4$	$6.9 \pm 2.0 \pm 1.3$		$7.1^{+11.4}_{-7.1} \pm 1.0$		$6.9 \pm 2.3$
194	$K^+\pi^+\pi^-$	$56 \pm 9$	$54.4 \pm 1.1 \pm 4.6$	$48.8 \pm 1.1 \pm 3.6$			$51.0 \pm 3.0$
195	$K^+\pi^+\pi^- (NR)$	$3.1^{+1.0}_{-0.8}$	$9.3 \pm 1.0^{+6.8}_{-1.2}$	$16.9 \pm 1.3^{+1.7}_{-1.6}$	$< 28$		$16.3 \pm 2.0$
196	$f_0(980)K^+ \dagger$	$8.9 \pm 1.0$	$10.3 \pm 0.5^{+2.0}_{-1.3}$	$8.8 \pm 0.8^{+0.9}_{-1.8}$			$9.5 \pm 0.9$
197	$f_2(1270)K^+ \dagger$	$< 2.3$	$0.88 \pm 0.26^{+0.26}_{-0.21}$	$1.33 \pm 0.30^{+0.23}_{-0.34}$			$1.06^{+0.28}_{-0.29}$
198	$f_0(1370)K^+ \dagger$	$< 10.7$	$< 10.7$				$< 10.7$
199	$\rho^0(1450)K^+ \dagger$	$< 11.7$	$< 11.7$				$< 11.7$
200	$f_0(1500)K^+ \dagger$	$< 4.4$	$0.73 \pm 0.21 \pm 0.47$				$0.73 \pm 0.52$
201	$f_2'(1525)K^+ \dagger$	$< 3.4$	$< 3.4$	$< 4.9$			$< 3.4$
202	$K^+\rho^0$	$5.0^{+0.7}_{-0.8}$	$3.56 \pm 0.45^{+0.57}_{-0.46}$	$3.89 \pm 0.47^{+0.43}_{-0.41}$	$8.4^{+4.0}_{-3.4} \pm 1.8$		$3.81^{+0.48}_{-0.46}$
203	$K_0^{*0}(1430)\pi^+$	$38 \pm 5$	$32.0 \pm 1.2^{+10.8}_{-6.0}$	$51.6 \pm 1.7^{+7.0}_{-7.4}$			$45.2^{+6.2}_{-6.3}$
204	$K_2^{*0}(1430)\pi^+$	$< 6.9$	$5.6 \pm 1.2^{+1.8}_{-0.8}$	$< 6.9$			$5.6^{+2.3}_{-1.4}$
205	$K^{*0}(1410)\pi^+$	$< 45$		$< 45$			$< 45$
206	$K^{*0}(1680)\pi^+$	$< 12$	$< 15$	$< 12$			$< 12$
207	$K^-\pi^+\pi^+$	$< 1.8$	$< 1.8$	$< 4.5$			$< 1.8$
210	$K^0\pi^+\pi^0$	$< 66$			$< 66$		$< 66$
211	$K^0\rho^+$	$< 48$	$8.0^{+1.4}_{-1.3} \pm 0.6$		$< 48$		$8.0^{+1.5}_{-1.4}$
–	$K^{*+}\pi^+\pi^-$	New	$75.3 \pm 6.0 \pm 8.1$				$75.3 \pm 10.1$
213	$K^{*+}\rho^0$	$11 \pm 4$	$< 6.1$		$< 74$		$< 6.1$
–	$K^{*+}f_0(980) \dagger$	New	$5.2 \pm 1.2 \pm 0.5$				$5.2 \pm 1.3$
–	$a_1^+K^0$	New	$34.9 \pm 5.0 \pm 4.4$				$34.9 \pm 6.7$
–	$b_1^0K^+$	New	$9.1 \pm 1.7 \pm 1.0$				$9.1 \pm 2.0$
214	$K^{*0}\rho^+$	$8.9 \pm 2.1$	$9.6 \pm 1.7 \pm 1.5$	$8.9 \pm 1.7 \pm 1.2$			$9.2 \pm 1.5$
215	$K^{*+}\overline{K}^{*0}$	$< 71$			$< 71$		$< 71$
218	$K^+\overline{K}^0$	$1.20 \pm 0.32$	$1.61 \pm 0.44 \pm 0.09$	$1.22^{+0.33+0.13}_{-0.28-0.16}$	$< 3.3$		$1.36^{+0.29}_{-0.27}$
219	$K^+\overline{K}^0\pi^0$	$< 24$			$< 24$		$< 24$
220	$K^+K_S K_S$	$11.5 \pm 1.3$	$10.7 \pm 1.2 \pm 1.0$	$13.4 \pm 1.9 \pm 1.5$			$11.5 \pm 1.3$
221	$K_S K_S \pi^+$	$< 3.2$		$< 3.2$			$< 3.2$
222	$K^+K^-\pi^+$	$< 6.3$	$5.0 \pm 0.5 \pm 0.5$	$< 13$			$5.0 \pm 0.7$
224	$K^+K^+\pi^-$	$< 1.3$	$< 1.3$	$< 2.4$			$< 1.3$
226	$\overline{K}^{*0}K^+$	$< 5.3$	$< 1.1$		$< 5.3$		$< 1.1$
–	$\overline{K}_0^{*0}(1430)K^+$	New	$< 2.2$				$< 2.2$
228	$K^+K^-K^+$	$30.1 \pm 1.9$	$33.5 \pm 0.9 \pm 1.6$	$30.6 \pm 1.2 \pm 2.3$			$32.5 \pm 1.5$
229	$\phi K^+$	$9.0 \pm 0.8$	$8.4 \pm 0.7 \pm 0.7$	$9.60 \pm 0.92^{+1.05}_{-0.84}$	$5.5^{+2.1}_{-1.8} \pm 0.6$	$7.6 \pm 1.3 \pm 0.6$	$8.30 \pm 0.65$
231	$a_2 K^+ \dagger$	$< 1.1$		$< 1.1$			$< 1.1$
233	$\phi(1680)K^+ \dagger$	$< 0.8$		$< 0.8$			$< 0.8$
235	$K^{*+}K^+K^-$	$< 1600$	$36.2 \pm 3.3 \pm 3.6$				$36.2 \pm 4.9$
236	$\phi K^{*+}$	$9.6 \pm 3.0$	$11.2 \pm 1.0 \pm 0.9$	$6.7^{+2.1+0.7}_{-1.9-1.0}$	$10.6^{+6.4+1.8}_{-4.9-1.6}$		$10.0 \pm 1.1$
–	$\eta(1405)K^+ \dagger$	New	$< 1.2$				$< 1.2$
–	$\eta(1475)K^+ \dagger$	New	$13.8^{+1.8+1.0}_{-1.7-0.6}$				$13.8^{+2.1}_{-1.8}$
–	$\phi(1680)K^+ \dagger$	New	$< 3.4$				$< 3.4$
–	$f_1(1285)K^+$	New	$< 2.0$				$< 2.0$
–	$\eta(1295)K^+ \dagger$	New	$< 4.0$				$< 4.0$
–	$f_1(1420)K^+ \dagger$	New	$< 2.9$				$< 2.9$
–	$K^{*+}\pi^+K^-$	New	$< 11.8$				$< 11.8$
–	$K^{*+}K^+\pi^-$	New	$< 6.1$				$< 6.1$
239	$\phi\phi K^+ \S$	$2.6^{+1.1}_{-0.9}$	$7.5 \pm 1.0 \pm 0.7$	$3.2^{+0.6}_{-0.5} \pm 0.3$			$4.2 \pm 0.6$
–	$\eta'\eta'K^+$	New	$< 25$				$< 25$

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

Heavy Flavor Averaging Group  
 $B^+$  Branching Fractions (decays without kaons) ( $\times 10^6$ ) - April 2008. (UL 90%  
CL)

In PDG2006    New since PDG2006 (preliminary)    New since PDG2006 (published)

RPP#	Mode	PDG2006 Avg.	BABAR	Belle	CLEO	CDF	New avg.
254	$\pi^+\pi^0$	$5.5 \pm 0.6$	<span style="color: red;"><math>5.02 \pm 0.46 \pm 0.29</math></span>	<span style="color: red;"><math>6.5 \pm 0.4^{+0.4}_{-0.5}</math></span>	$4.6^{+1.8+0.6}_{-1.6-0.7}$		$5.59^{+0.41}_{-0.40}$
255	$\pi^+\pi^-\pi^+$	$16.2 \pm 1.2 \pm 0.9$	$16.2 \pm 1.2 \pm 0.9$				$16.2 \pm 1.5$
256	$\rho^0\pi^+$	$8.7 \pm 1.1$	$8.8 \pm 1.0^{+0.6}_{-0.9}$	$8.0^{+2.3}_{-2.0} \pm 0.7$	$10.4^{+3.3}_{-3.4} \pm 2.1$		$8.7^{+1.0}_{-1.1}$
257	$f_0(980)\pi^+ \dagger$	$< 3.0$	$< 3.0$				$< 3.0$
258	$f_2(1270)\pi^+$	$8.2 \pm 2.1 \pm 1.4$	$8.2 \pm 2.1 \pm 1.4$				$8.2 \pm 2.5$
259	$\rho^0(1450)\pi^+$	$< 2.3$	$< 2.3$				$< 2.3$
260	$f_0(1370)\pi^+$	$< 3.0$	$< 3.0$				$< 3.0$
261	$f_0(600)\pi^+$	$< 4.1$	$< 4.1$				$< 4.1$
262	$\pi^+\pi^-\pi^+(NR)$	$< 4.6$	$< 4.6$				$< 4.6$
264	$\rho^+\pi^0$	$12.0 \pm 1.9$	<span style="color: red;"><math>10.2 \pm 1.4 \pm 0.9</math></span>	$13.2 \pm 2.3^{+1.4}_{-1.9}$	$< 43$		$10.9^{+1.4}_{-1.5}$
266	$\rho^+\rho^0$	$26 \pm 6$	<span style="color: red;"><math>16.8 \pm 2.2 \pm 2.3</math></span>	$31.7 \pm 7.1^{+3.8}_{-6.7}$			$18.2 \pm 3.0$
–	$f_0(980)\rho^+ \dagger$	New	<span style="color: red;"><math>&lt; 1.9</math></span>				$< 1.9$
267	$a_1^+\pi^0$	$< 1700$	<span style="color: red;"><math>26.4 \pm 5.4 \pm 4.1</math></span>				$26.4 \pm 6.8$
268	$a_1^0\pi^+$	$< 900$	<span style="color: red;"><math>20.4 \pm 4.7 \pm 3.4</math></span>				$20.4 \pm 5.8$
–	$b_1^0\pi^+$	New	<span style="color: red;"><math>6.7 \pm 1.7 \pm 1.0</math></span>				$6.7 \pm 2.0$
269	$\omega\pi^+$	$5.9 \pm 1.0$	<span style="color: red;"><math>6.7 \pm 0.5 \pm 0.4</math></span>	<span style="color: red;"><math>6.9 \pm 0.6 \pm 0.5</math></span>	$11.3^{+3.3}_{-2.9} \pm 1.4$		$6.9 \pm 0.5$
270	$\omega\rho^+$	$12.6 \pm 3.7^{+3.3}_{-1.6}$	<span style="color: red;"><math>10.6 \pm 2.1^{+1.6}_{-1.0}</math></span>		$< 61$		$10.6^{+2.6}_{-2.3}$
271	$\eta\pi^+$	$4.9 \pm 0.5$	<span style="color: red;"><math>5.0 \pm 0.5 \pm 0.3</math></span>	<span style="color: red;"><math>4.2 \pm 0.4 \pm 0.2</math></span>	$1.2^{+2.8}_{-1.2}$		$4.4 \pm 0.4$
272	$\eta'\pi^+$	$4.0 \pm 0.9$	<span style="color: red;"><math>3.9 \pm 0.7 \pm 0.3</math></span>	<span style="color: red;"><math>1.8^{+0.7}_{-0.6} \pm 0.1</math></span>	$1.0^{+5.8}_{-1.0}$		$2.7^{+0.6}_{-0.5}$
273	$\eta'\rho^+$	$< 22$	<span style="color: red;"><math>8.7^{+3.1+2.3}_{-2.8-1.3}</math></span>	$< 5.8$	$11.2^{+11.9}_{-7.0}$		$9.1^{+3.7}_{-2.8}$
274	$\eta\rho^+$	$8.4 \pm 1.9 \pm 1.1$	$8.4 \pm 1.9 \pm 1.1$	<span style="color: red;"><math>4.1^{+1.4}_{-1.3} \pm 0.4</math></span>	$4.8^{+5.2}_{-3.8}$		$5.4 \pm 1.2$
275	$\phi\pi^+$	$< 0.41$	<span style="color: red;"><math>&lt; 0.24</math></span>		$< 5$		$< 0.24$
276	$\phi\rho^+$	$< 16$			$< 16$		$< 16$
277	$a_0^0(980)\pi^+ \dagger$	$< 5.8$	$< 5.8$				$< 5.8$
–	$a_0^+(980)\pi^0 \dagger$	New	<span style="color: red;"><math>&lt; 1.4</math></span>				$< 1.4$

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

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$B^0$  Branching Fractions (decays with kaons) ( $\times 10^6$ ) - April 2008. (UL 90% CL)  
 In PDG2006    New since PDG2006 (preliminary)    New since PDG2006 (published)

RPP#	Mode	PDG2006 Avg.	BABAR	Belle	CLEO	CDF	New avg.
168	$K^+\pi^-$	$18.2 \pm 0.8$	$19.1 \pm 0.6 \pm 0.6$	$19.9 \pm 0.4 \pm 0.8$	$18.0^{+2.3+1.2}_{-2.1-0.9}$		$19.4 \pm 0.6$
169	$K^0\pi^0$	$11.5 \pm 1.0$	$10.3 \pm 0.7 \pm 0.6$	$9.2 \pm 0.7^{+0.6}_{-0.7}$	$12.8^{+4.0+1.7}_{-3.3-1.4}$		$9.9 \pm 0.6$
170	$\eta'K^0$	$68 \pm 4$	$66.6 \pm 2.6 \pm 2.8$	$58.9^{+3.6}_{-3.5} \pm 4.3$	$89^{+18}_{-16} \pm 9$		$64.9 \pm 3.1$
171	$\eta'K^{*0}$	$< 7.6$	$3.8 \pm 1.1 \pm 0.5$	$< 2.6$	$7.8^{+7.7}_{-5.7}$		$3.8 \pm 1.2$
172	$\eta K^{*0}$	$17.7 \pm 2.3$	$16.5 \pm 1.1 \pm 0.8$	$15.2 \pm 1.2 \pm 1.0$	$13.8^{+5.5}_{-4.6} \pm 1.6$		$15.9 \pm 1.0$
—	$\eta K_0^{*0}(1430)$	New	$9.6 \pm 1.4 \pm 1.3$				$9.6 \pm 1.9$
—	$\eta K_2^{*0}(1430)$	New	$9.6 \pm 1.8 \pm 1.1$				$9.6 \pm 2.1$
173	$\eta K^0$	$< 2.0$	$< 2.9$	$< 1.9$	$< 9.3$		$< 1.9$
174	$\omega K^0$	$5.5^{+1.2}_{-1.0}$	$5.4 \pm 0.8 \pm 0.3$	$4.4^{+0.8}_{-0.7} \pm 0.4$	$10.0^{+5.4}_{-4.2} \pm 1.4$		$5.0 \pm 0.6$
175	$a_0^0(980)K^0 \dagger$	$< 7.8$	$< 7.8$				$< 7.8$
176	$a_0^-(980)K^+ \dagger$	$< 2.1$	$< 1.9$				$< 1.9$
—	$a_0^-(1450)K^+ \dagger$	New	$< 3.1$				$< 3.1$
178	$\omega K^{*0}$	$< 6.0$	$< 4.2$	$< 2.7$	$< 23$		$< 2.7$
179	$K^+K^-$	$< 0.37$	$0.04 \pm 0.15 \pm 0.08$	$0.09^{+0.18}_{-0.13} \pm 0.01$	$< 0.8$	$0.39 \pm 0.16 \pm 0.12 \ddagger$	$0.15^{+0.11}_{-0.10}$
180	$K^0\bar{K}^0$	$1.13^{+0.38}_{-0.35}$	$1.08 \pm 0.28 \pm 0.11$	$0.87^{+0.25}_{-0.20} \pm 0.09$	$< 3.3$		$0.96^{+0.21}_{-0.19}$
181	$K_S K_S K_S$	$6.2^{+1.2}_{-1.1}$	$6.9^{+0.9}_{-0.8} \pm 0.6$	$4.2^{+1.6}_{-1.3} \pm 0.8$			$6.2 \pm 0.9$
—	$K_S K_S K_L$	New	$< 16^1$				$< 16^1$
182	$K^+\pi^-\pi^0$	$36.6^{+4.2}_{-4.3} \pm 3.0$	$35.7^{+2.6}_{-1.5} \pm 2.2$	$36.6^{+4.2}_{-4.3} \pm 3.0$	$< 40$		$35.9^{+2.9}_{-2.4}$
183	$K^+\rho^-$	$8.5 \pm 2.8$	$8.0^{+0.8}_{-1.3} \pm 0.6$	$15.1^{+3.4+2.4}_{-3.3-2.6}$	$16^{+8}_{-6} \pm 3$		$8.6^{+0.9}_{-1.1}$
—	$f_2(1270)K^0$	New		$< 2.5$			$< 2.5$
—	$K^+\rho(1450)^-$	New	$< 2.1$				$< 2.1$
—	$K^+\rho(1700)^-$	New	$< 1.1$				$< 1.1$
—	$K^+\pi^-\pi^0(NR)$	New	$4.4 \pm 0.9 \pm 0.5$	$< 9.4$			$4.4 \pm 1.0$
189	$K^{*+}\pi^-$	$11.8 \pm 1.5$	$11.7^{+1.3}_{-1.2}$	$8.4 \pm 1.1^{+1.0}_{-0.9}$	$16^{+6}_{-5} \pm 2$		$10.6 \pm 0.9$
191	$K^{*0}\pi^0$	$< 3.5$	$3.6 \pm 0.7 \pm 0.4$	$0.4^{+1.9}_{-1.7} \pm 0.1$	$0.0^{+1.3+0.5}_{-0.0-0.0}$		$2.4 \pm 0.7$
—	$K^{*+}(1410)\pi^-$	New		$< 86$			$< 86$
—	$K_0^{*+}(1430)\pi^-$	New	$25.4^{+3.0+6.1}_{-3.7-5.6} \pm 2$	$49.7 \pm 3.8^{+6.8}_{-8.2}$			$34.2 \pm 5.4$
—	$K_0^{*+}(1430)^0\pi^0$	New	$11.7^{+1.4+4.0}_{-1.3-3.6} \pm 2$				$11.7^{+4.2}_{-3.8}$
192	$K_2^{*+}(1430)\pi^-$	$< 18$	$< 16.2$	$< 6.3$			$< 6.3$
—	$K_2^{*+}(1430)^0\pi^0$	New	$< 4.0$				$< 4.0$
—	$K^*(1680)\pi^-\pi^-$	New	$< 25$	$< 10.1$			$< 10.1$
—	$K^*(1680)^0\pi^0$	New	$< 7.5$				$< 7.5$
186	$K^0\pi^+\pi^-$	$43.8 \pm 2.9$	$43.0 \pm 2.3 \pm 2.3$	$47.5 \pm 2.4 \pm 3.7$	$50^{+10}_{-9} \pm 7$		$44.8^{+2.6}_{-2.5}$
187	$K^0\rho^0$	$< 39$	$4.9 \pm 0.8 \pm 0.9$	$6.1 \pm 1.0^{+1.1}_{-1.2}$	$< 39$		$5.4^{+0.9}_{-1.0}$
188	$f_0(980)K^0 \dagger$	$5.5 \pm 0.7 \pm 0.6$	$5.5 \pm 0.7 \pm 0.6$	$7.6 \pm 1.7^{+0.9}_{-1.3}$			$5.8^{+0.8}_{-0.9}$
—	$K_1^+(1270)\pi^-$	New	$< 25.2$				$< 25.2$
—	$K_1^+(1400)\pi^-$	New	$< 21.8$				$< 21.8$
193	$K^0K^-\pi^+$	$< 21$		$< 18$	$< 21$		$< 18$
194	$K^+K^-\pi^0$	$< 19$			$< 19$		$< 19$
195	$K^+K^-K^0$	$24.7 \pm 2.3$	$23.8 \pm 2.0 \pm 1.6$	$28.3 \pm 3.3 \pm 4.0$			$24.7 \pm 2.3$
196	$\phi K^0$	$8.6^{+1.3}_{-1.1}$	$8.4^{+1.5}_{-1.3} \pm 0.5$	$9.0^{+2.2}_{-1.8} \pm 0.7$	$5.4^{+3.7}_{-2.7} \pm 0.7$		$8.3^{+1.2}_{-1.0}$
198	$K^{*0}\pi^+\pi^-$	$< 1400$	$54.5 \pm 2.9 \pm 4.3$				$54.5 \pm 5.2$
199	$K^{*0}\rho^0$	$< 34$	$5.6 \pm 0.9 \pm 1.3$		$< 34$		$5.6 \pm 1.6$
200	$f_0(980)K^{*0} \dagger$	$< 170$	$< 4.3$				$< 4.3$
—	$K^{*+}\rho^-$	New	$< 12$				$< 12$
—	$K^{*0}\bar{K}^0$	New	$< 1.9$				$< 1.9$
202	$a_1^-K^+$	$< 230$	$16.3 \pm 2.9 \pm 2.3$				$16.3 \pm 3.7$
—	$b_1^-K^+$	New	$7.4 \pm 1.0 \pm 1.0$				$7.4 \pm 1.4$
203	$K^{*0}K^+K^-$	$< 610$	$27.5 \pm 1.3 \pm 2.2$				$27.5 \pm 2.6$
204	$\phi K^{*0}$	$9.5 \pm 0.9$	$9.2 \pm 0.7 \pm 0.6$	$10.0^{+1.6+0.7}_{-1.5-0.8}$	$11.5^{+4.5+1.8}_{-3.7-1.7}$		$9.5 \pm 0.8$
—	$\phi K_0^{*0}(1430)$	New	$4.6 \pm 0.7 \pm 0.6$				$4.6 \pm 0.9$
—	$\phi K_2^{*0}(1430)$	New	$7.8 \pm 1.1 \pm 0.6$				$7.8 \pm 1.3$
—	$\phi K^{*0}(1680)$	New	$< 3.5$				$< 3.5$
—	$\phi K_3^{*0}(1780)$	New	$< 2.7$				$< 2.7$
—	$\phi K_4^{*0}(2045)$	New	$< 15.3$				$< 15.3$
—	$\phi\phi K^0 \S$	New	$4.1^{+1.7}_{-1.4} \pm 0.4$	$2.3^{+1.0}_{-0.7} \pm 0.2$			$2.8^{+0.9}_{-0.7}$
—	$K^{*0}\pi^+K^-$	New	$4.6 \pm 1.1 \pm 0.8$				$4.6 \pm 1.4$
—	$K^{*0}K^+\pi^-$	New	$< 2.2$				$< 2.2$
205	$K^{*0}\bar{K}^{*0}$	$< 22$	$1.28^{+0.35}_{-0.30} \pm 0.11$		$< 22$		$1.28^{+0.37}_{-0.32}$
206	$K^{*0}K^{*0}$	$< 37$	$< 0.41$		$< 37$		$< 0.41$
207	$K^{*+}K^{*-}$	$< 141$			$< 141$		$< 141$
—	$\eta'\eta'K^0$	New	$< 31$				$< 31$

$\dagger$ Product BF - daughter BF taken to be 100%,  $\ddagger$ Relative BF converted to absolute BF  $\S M_{\phi\phi} < 2.85$  GeV/ $c^2$   $^1$ Excludes  $M(K_S K_S)$  regions [3.400,3.429] and [3.540,3.585] and  $M(K_S K_L) < 1.049$  GeV/ $c^2$   $^2$ Includes  $K\pi$  S-wave contribution and uncorrected for  $K^*(1430)$  BF

## Heavy Flavor Averaging Group

$B^0$  Branching Fractions (decays without kaons) ( $\times 10^6$ ) - April 2008. (UL 90% CL)  
 In PDG2006    New since PDG2006 (preliminary)    New since PDG2006 (published)

RPP#	Mode	PDG2006 Avg.	BABAR	Belle	CLEO	CDF	New avg.
229	$\pi^+\pi^-$	$4.6 \pm 0.4$	<span style="color: red;"><math>5.5 \pm 0.4 \pm 0.3</math></span>	<span style="color: blue;"><math>5.1 \pm 0.2 \pm 0.2</math></span>	$4.5_{-1.2-0.4}^{+1.4+0.5}$	<span style="color: blue;"><math>5.10 \pm 0.33 \pm 0.36</math> ‡</span>	$5.16 \pm 0.22$
230	$\pi^0\pi^0$	$1.5 \pm 0.5$	<span style="color: red;"><math>1.47 \pm 0.25 \pm 0.12</math></span>	<span style="color: blue;"><math>1.1 \pm 0.3 \pm 0.1</math></span>	$< 4.4$		$1.31 \pm 0.21$
231	$\eta\pi^0$	$< 2.5$	$< 1.3$	$< 2.5$	$< 2.9$		$< 1.3$
232	$\eta\eta$	$< 2.0$	$< 1.8$	$< 2.0$	$< 18$		$< 1.8$
233	$\eta'\pi^0$	$< 3.7$	<span style="color: red;"><math>0.8_{-0.6}^{+0.8} \pm 0.1</math></span>	<span style="color: red;"><math>2.8 \pm 1.0 \pm 0.3</math></span>	$0.0_{-0.6}^{+1.8}$		$1.5_{-0.6}^{+0.7}$
234	$\eta'\eta'$	$< 10$	$< 2.4$	$< 6.5$	$< 47$		$< 2.4$
235	$\eta'\eta$	$< 4.6$	$< 1.7$	$< 4.5$	$< 27$		$< 1.7$
236	$\eta'\rho^0$	$< 4.3$	$< 3.7$	$< 1.3$	$< 12$		$< 1.3$
–	$f_0(980)\eta' \dagger$	New	$< 1.5$				$< 1.5$
237	$\eta\rho^0$	$< 1.5$	$< 1.5$	$< 1.9$	$< 10$		$< 1.5$
–	$f_0(980)\eta \dagger$	New	$< 0.4$				$< 0.4$
238	$\omega\eta$	$< 1.9$	$< 1.9$		$< 12$		$< 1.9$
239	$\omega\eta'$	$< 2.8$	$< 2.8$	$< 2.2$	$< 60$		$< 2.2$
240	$\omega\rho^0$	$< 3.3$	$< 1.5$		$< 11$		$< 1.5$
–	$f_0(980)\omega \dagger$	New	$< 1.5$				$< 1.5$
241	$\omega\omega$	$< 19$	$< 4.0$		$< 19$		$< 4.0$
242	$\phi\pi^0$	$< 1$	$< 0.28$		$< 5$		$< 0.28$
243	$\phi\eta$	$< 1$	$< 0.6$		$< 9$		$< 0.6$
244	$\phi\eta'$	$< 4.5$	$< 1.0$	$< 0.5$	$< 31$		$< 0.5$
245	$\phi\rho^0$	$< 13$			$< 13$		$< 13$
246	$\omega\phi$	$< 21$	$< 1.2$		$< 21$		$< 1.2$
247	$\phi\phi$	$< 1.5$	$< 1.5$		$< 12$		$< 1.5$
248	$a_0^\mp(980)\pi^\pm \dagger$	$< 5.1$	$< 3.1$				$< 3.1$
–	$a_0^\mp(1450)\pi^\pm \dagger$	New	$< 2.3$				$< 2.3$
250	$\rho^0\pi^0$	$1.8 \pm 0.8$	$1.4 \pm 0.6 \pm 0.3$	<span style="color: red;"><math>3.0 \pm 0.5 \pm 0.7</math></span>	$1.6_{-1.4}^{+2.0} \pm 0.8$		$2.0 \pm 0.5$
251	$\rho^\mp\pi^\pm$	$22.8 \pm 2.5$	$22.6 \pm 1.8 \pm 2.2$	<span style="color: red;"><math>22.6 \pm 1.1 \pm 4.4</math></span>	$27.6_{-7.4}^{+8.4} \pm 4.2$		$23.0 \pm 2.3$
252	$\pi^+\pi^-\pi^+\pi^-$	$< 230$		$< 19.0$			$< 19.0$
253	$\rho^0\rho^0$	$< 1.1$	<span style="color: blue;"><math>0.84 \pm 0.29 \pm 0.17</math></span>	<span style="color: blue;"><math>0.4 \pm 0.4 \pm 0.2</math></span>	$< 18$		$0.68 \pm 0.27$
–	$\rho^0\pi^+\pi^-(NR)$	New		$< 11.9$			$< 11.9$
–	$f_0(980)\pi^+\pi^-(NR)$	New		$< 7.3$			$< 7.3$
–	$f_0(980)\rho^0 \dagger$	New	$< 0.53$	$< 0.6$			$< 0.53$
–	$f_0(980)f_0(980) \dagger$	New	$< 0.16$	$< 0.4$			$< 0.16$
254	$a_1^\mp\pi^\pm$	$< 490$	<span style="color: red;"><math>33.2 \pm 3.8 \pm 3.0</math></span>	<span style="color: blue;"><math>29.8 \pm 3.2 \pm 4.6</math></span>			$31.7 \pm 3.7$
–	$b_1^\mp\pi^\pm$	New	<span style="color: red;"><math>10.9 \pm 1.2 \pm 0.9</math></span>				$10.9 \pm 1.5$
257	$\rho^+\rho^-$	$25 \pm 4$	<span style="color: red;"><math>25.5 \pm 2.1_{-3.9}^{+3.6}</math></span>	$22.8 \pm 3.8_{-2.6}^{+2.3}$			$24.2_{-3.2}^{+3.1}$
259	$\omega\pi^0$	$< 1.2$	$< 1.2$	$< 2.0$	$< 5.5$		$< 1.2$
261	$a_1^\pm\rho^\mp$	$< 3400$	$< 61$				$< 61$

†Product BF - daughter BF taken to be 100%, ‡Relative BF converted to absolute BF

Heavy Flavor Averaging Group  
April 2008

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

In PDG2006    New since PDG2006 (preliminary)    New since PDG2006 (published)

RPP#	Mode	PDG2006 Avg.	CDF	DØ	New avg.
179	$\mathcal{B}(B^0 \rightarrow K^+K^-)/\mathcal{B}(B^0 \rightarrow K^+\pi^-)$		$0.020 \pm 0.008 \pm 0.006$		$0.020 \pm 0.010$
229	$\mathcal{B}(B^0 \rightarrow \pi^+\pi^-)/\mathcal{B}(B^0 \rightarrow K^+\pi^-)$		$0.259 \pm 0.017 \pm 0.016$		$0.259 \pm 0.023$

# Charmless Mesonic Decays:

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