Topology Analysis \* (v1.5)

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<sup>\*</sup>This package is implemented with reference to a program called Topo, which is developed by Prof. Shuxian Du from Zhengzhou University in China and has been widely used by people in BESIII collaboration. Several years ago, when I was a PhD student working on BESIII experiment, I learned the idea of topology analysis and a lot of programming techniques from the Topo program. So, I really appreciate Prof. Du's original work very much. To meet my own needs and to practice developing analysis tools with C++, ROOT and LaTex, I wrote the package from scratch. At that time, the package functioned well but was relatively simple. At the end of last year (2017), my co-supervisor, Prof. Chengping Shen reminded me that it could be a useful tool for Belle II experiment as well. So, I revised and extended it, making it more well-rounded and suitable for Belle II experiment. Here, I would like to thank Prof. Du for his original work, Prof. Shen for his suggestion and encouragement, and Wencheng Yan, Sen Jia, Yubo Li, Suxian Li, Longke Li and Guanda Gong for their efforts in helping me test the program. †Email: zhouxy@buaa.edu.cn

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Table 1: Event trees and their respective initial-final states.

	Table 1: Event trees and their respective initial-linal states.							
index	event tree (event initial-final states)	iEvtTr	iEvtIFSts	nEvts	nCmltEvts			
1	$e^{+}e^{-} \rightarrow \Upsilon(4S), \Upsilon(4S) \rightarrow B^{0}\bar{B}^{0}, B^{0} \rightarrow \pi^{0}\pi^{0}\rho^{0}\pi^{+}\bar{D}^{*-}, \bar{B}^{0} \rightarrow \pi^{+}D^{0}D_{s}^{*-}, \rho^{0} \rightarrow \pi^{+}\pi^{-}, \bar{D}^{*-} \rightarrow \pi^{-}\bar{D}^{0},$ $D^{0} \rightarrow \rho^{+}K^{*-}, D_{s}^{*-} \rightarrow D_{s}^{-}\gamma, \bar{D}^{0} \rightarrow \eta\eta', \rho^{+} \rightarrow \pi^{0}\pi^{+}, K^{*-} \rightarrow \pi^{-}\bar{K}^{0}, D_{s}^{-} \rightarrow e^{-}\bar{\nu}_{e}\phi,$ $\eta \rightarrow \pi^{0}\pi^{0}, \eta' \rightarrow \pi^{0}\pi^{0}\eta, \bar{K}^{0} \rightarrow K_{S}, \phi \rightarrow K^{+}K^{-}, \eta \rightarrow \gamma\gamma, K_{S} \rightarrow \pi^{0}\pi^{0}$ $(e^{+}e^{-} \rightarrow e^{-}\bar{\nu}_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}\gamma)$	0	0	1	1			
2	$e^{+}e^{-} \to \Upsilon(4S), \Upsilon(4S) \to B^{0}\bar{B}^{0}, B^{0} \to \pi^{-}K^{*+}J/\psi, \bar{B}^{0} \to \pi^{0}\pi^{-}D^{*+}, K^{*+} \to \pi^{+}K^{0}, J/\psi \to \pi^{+}K^{0}K^{*-},$ $\pi^{0} \to e^{+}e^{-}, D^{*+} \to \pi^{+}D^{0}, K^{0} \to K_{S}, K^{0} \to K_{S}, K^{*-} \to \pi^{-}\bar{K}^{0}, D^{0} \to \pi^{+}\pi^{-}\bar{K}^{*},$ $K_{S} \to \pi^{0}\pi^{0}, K_{S} \to \pi^{+}\pi^{-}, \bar{K}^{0} \to K_{S}, \bar{K}^{*} \to \pi^{+}K^{-}, K_{S} \to \pi^{+}\pi^{-}$ $(e^{+}e^{-} \to e^{+}e^{-}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{-}\gamma\gamma\gamma\gamma)$	1	1	1	2			
3	$e^{+}e^{-} \to \Upsilon(4S), \Upsilon(4S) \to B^{0}\bar{B}^{0}, B^{0} \to K^{*+}\bar{D}^{*-}D^{*0}, \bar{B}^{0} \to \pi^{0}\rho^{0}\rho^{-}\eta D^{+}, K^{*+} \to \pi^{+}K^{0}, \bar{D}^{*-} \to \pi^{0}D^{-}, \\ D^{*0} \to \pi^{0}D^{0}, \rho^{0} \to \pi^{+}\pi^{-}, \rho^{-} \to \pi^{0}\pi^{-}, \eta \to \gamma\gamma, D^{+} \to e^{+}\nu_{e}\bar{K}^{0}, K^{0} \to K_{L}, \\ D^{-} \to K_{L}\pi^{-}\pi^{-}K^{+}, D^{0} \to \pi^{0}\eta K_{S}, \bar{K}^{0} \to K_{S}, \eta \to \pi^{0}\pi^{+}\pi^{-}, K_{S} \to \pi^{+}\pi^{-}, K_{S} \to \pi^{0}\pi^{0} \\ (e^{+}e^{-} \to e^{+}\nu_{e}K_{L}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma)$	2	2	1	3			
4	$e^{+}e^{-} \to \Upsilon(4S), \Upsilon(4S) \to B^{0}\bar{B}^{0}, B^{0} \to \bar{D}^{*-}a_{1}^{+}, \bar{B}^{0} \to \pi^{+}\pi^{+}\pi^{-}\pi^{-}D^{*+}, \bar{D}^{*-} \to \pi^{-}\bar{D}^{0}, a_{1}^{+} \to \pi^{0}\rho^{+},$ $D^{*+} \to \pi^{+}D^{0}, \bar{D}^{0} \to \pi^{-}K^{+}\eta', \rho^{+} \to \pi^{0}\pi^{+}, D^{0} \to e^{+}\nu_{e}\pi^{-}, \eta' \to \pi^{+}\pi^{-}\eta, \pi^{0} \to e^{+}e^{-},$ $\eta \to \gamma\gamma$ $(e^{+}e^{-} \to e^{+}e^{+}e^{-}\nu_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma\gamma\gamma\gamma)$	3	3	1	4			
5	$e^{+}e^{-} \to \Upsilon(4S), \Upsilon(4S) \to B^{0}B^{0}, B^{0} \to D^{-}D'_{s1}^{+}, B^{0} \to \pi^{0}\rho^{+}\omega\bar{D}^{*-}, D^{-} \to \pi^{0}\pi^{-}, D'_{s1}^{+} \to \pi^{0}D_{s}^{*+},$ $\rho^{+} \to \pi^{0}\pi^{+}, \omega \to \pi^{0}\pi^{+}\pi^{-}, \bar{D}^{*-} \to \pi^{-}\bar{D}^{0}, D_{s}^{*+} \to D_{s}^{+}\gamma, \bar{D}^{0} \to K_{L}\omega, D_{s}^{+} \to e^{+}\nu_{e}\phi,$ $\omega \to \pi^{0}\gamma, \phi \to K^{+}K^{-}$ $(e^{+}e^{-} \to e^{+}\nu_{e}K_{L}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma)$	4	4	1	5			
6	$e^{+}e^{-} \to \Upsilon(4S), \Upsilon(4S) \to B^{0}\bar{B}^{0}, B^{0} \to e^{+}\nu_{e}\bar{D}^{*-}, \bar{B}^{0} \to \pi^{+}\pi^{-}D^{+}D_{s}^{-}, \bar{D}^{*-} \to \pi^{-}\bar{D}^{0}, D^{+} \to e^{+}\nu_{e}\pi^{+}K^{-},$ $D_{s}^{-} \to \pi^{0}\pi^{-}\omega, \bar{D}^{0} \to \omega K_{S}, \omega \to \pi^{0}\pi^{+}\pi^{-}, \omega \to \pi^{0}\pi^{+}\pi^{-}, K_{S} \to \pi^{+}\pi^{-}$ $(e^{+}e^{-} \to e^{+}e^{+}\nu_{e}\nu_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma)$	5	5	1	6			
7	$e^{+}e^{-} \to \Upsilon(4S), \Upsilon(4S) \to B^{0}\bar{B}^{0}, B^{0} \to \pi^{0}\pi^{0}\pi^{+}\bar{D}^{*-}, \bar{B}^{0} \to \pi^{0}K^{*}K^{-}D^{+}, \bar{D}^{*-} \to \pi^{-}\bar{D}^{0}, K^{*} \to \pi^{-}K^{+},$ $D^{+} \to \pi^{0}\pi^{+}\eta', \bar{D}^{0} \to \mu^{-}\bar{\nu}_{\mu}K^{+}, \eta' \to \pi^{+}\pi^{-}\eta, \eta \to \pi^{0}\pi^{0}\pi^{0}$ $(e^{+}e^{-} \to \mu^{-}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma)$	6	6	1	7			
8	$e^{+}e^{-} \rightarrow \Upsilon(4S), \Upsilon(4S) \rightarrow B^{0}B^{0}, B^{0} \rightarrow \tau^{+}\nu_{\tau}\bar{D}^{*-}, B^{0} \rightarrow \pi^{0}\pi^{+}\eta\eta\bar{D}^{-}, \tau^{+} \rightarrow e^{+}\nu_{e}\bar{\nu}_{\tau}, \bar{D}^{*-} \rightarrow \pi^{-}\bar{D}^{0},$ $\eta \rightarrow \gamma\gamma, \eta \rightarrow \gamma\gamma, D^{-} \rightarrow \pi^{0}\pi^{-}K^{*}, \bar{D}^{0} \rightarrow \pi^{0}\pi^{+}\pi^{-}K^{*}, K^{*} \rightarrow \pi^{0}K^{0}, K^{*} \rightarrow \pi^{0}K^{0},$ $K^{0} \rightarrow K_{S}, K^{0} \rightarrow K_{L}, K_{S} \rightarrow \pi^{+}\pi^{-}$ $(e^{+}e^{-} \rightarrow e^{+}\nu_{e}\nu_{\tau}\bar{\nu}_{\tau}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma)$	7	7	1	8			
9	$e^{+}e^{-} \to \Upsilon(4S), \Upsilon(4S) \to B^{0}\bar{B}^{0}, B^{0} \to \pi^{0}\pi^{+}\pi^{+}\pi^{-}\bar{D}^{*-}, \bar{B}^{0} \to \mu^{-}\bar{\nu}_{\mu}D^{*+}, \bar{D}^{*-} \to \pi^{0}D^{-}, D^{*+} \to \pi^{+}D^{0},$ $D^{-} \to \pi^{-}\omega K^{0}, D^{0} \to K_{L}\omega, \omega \to \pi^{0}\pi^{+}\pi^{-}, K^{0} \to K_{S}, \omega \to \pi^{0}\pi^{+}\pi^{-}, K_{S} \to \pi^{0}\pi^{0}$ $(e^{+}e^{-} \to \mu^{-}\bar{\nu}_{\mu}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma)$	8	8	1	9			
10	$e^{+}e^{-} \to \Upsilon(4S), \Upsilon(4S) \to B^{0}\bar{B}^{0}, B^{0} \to K^{0}D^{-}D^{*+}, \bar{B}^{0} \to D^{*+}D_{s}^{*-}, K^{0} \to K_{S}, D^{-} \to \pi^{-}\pi^{-}K^{+},$ $D^{*+} \to \pi^{0}D^{+}, D^{*+} \to \pi^{0}D^{+}, D_{s}^{*-} \to D_{s}^{-}\gamma, K_{S} \to \pi^{+}\pi^{-}, D^{+} \to \mu^{+}\nu_{\mu}\bar{K}^{0}, D^{+} \to \pi^{+}\eta',$ $D_{s}^{-} \to K^{*}K^{*-}, \bar{K}^{0} \to K_{L}, \eta' \to \rho^{0}\gamma, K^{*} \to \pi^{-}K^{+}, K^{*-} \to \pi^{0}K^{-}, \rho^{0} \to \pi^{+}\pi^{-}$ $(e^{+}e^{-} \to \mu^{+}\nu_{\mu}K_{L}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma\gamma)$	9	9	1	10			

index	event tree (event initial-final states)	iEvtTr	iEvtIFSts	nEvts	nCmltEvts
rest	$e^+e^- \to \text{others}$ $(e^+e^- \to \text{corresponding to others})$	_	_	190	200

Table 2: Event initial-final states.

index	event initial-final states.	iEvtIFSts	nEvts	nCmltEvts
1	$e^+e^- \to e^- \bar{\nu}_e \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- K^+ K^- \gamma \gamma$	0	1	1
2	$e^{+}e^{-} \rightarrow e^{+}e^{-}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{-}\gamma\gamma\gamma\gamma$	1	1	2
3	$e^+e^- \to e^+\nu_e K_L K_L \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- \pi^- K^+ \gamma \gamma$	2	1	3
4	$e^{+}e^{-} \to e^{+}e^{+}e^{-}\nu_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma\gamma\gamma\gamma$	3	1	4
5	$e^+e^- \to e^+\nu_e K_L \pi^+\pi^+\pi^-\pi^-\pi^- K^+K^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	4	1	5
6	$e^{+}e^{-} \rightarrow e^{+}e^{+}\nu_{e}\nu_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma$	5	1	6
7	$e^+e^- \to \mu^-\bar{\nu}_\mu\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-K^+K^+K^-\gamma$	6	1	7
8	$e^+e^- \to e^+ \nu_e \nu_\tau \bar{\nu}_\tau K_L \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \gamma \gamma$	7	1	8
9	$e^+e^- \to \mu^- \bar{\nu}_\mu K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \gamma \gamma$	8	1	9
10	$e^+e^- \to \mu^+\nu_\mu K_L\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+K^+K^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	9	1	10
11	$e^+e^- \to \mu^+\mu^+\nu_\mu\nu_\mu K_L K_L \pi^+\pi^-\pi^-\pi^-K^+K^-\gamma\gamma\gamma\gamma\gamma\gamma$	10	1	11
12	$e^+e^-  o e^+e^- \mu^- \bar{\nu}_\mu \nu_\tau \bar{\nu}_\tau \pi^+ \pi^- K^+ \gamma \gamma \gamma \gamma \gamma \gamma \gamma \gamma \gamma$	11	1	12
13	$e^+e^- \to \mu^+\nu_\mu K_L\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-K^+\gamma$	12	1	13
14	$e^+e^- \to \mu^- \bar{\nu}_\mu K_L \pi^+ \pi^+ \pi^+ \pi^- \pi^- K^- \gamma \gamma$	13	1	14
15	$e^+e^- \to \pi^+\pi^+\pi^-\pi^-K^+K^-K^-\gamma$	14	1	15
16	$e^+e^-  o e^- \bar{\nu}_e \mu^+ \nu_\mu \pi^+ \pi^+ \pi^- \pi^- \pi^- K^+ K^- \gamma \gamma$	15	1	16
17	$e^+e^- \to e^+\nu_e\mu^-\bar{\nu}_\mu K_L\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+\gamma$	16	1	17
18	$e^+e^- \to \mu^+\nu_\mu K_L K_L \pi^+\pi^+\pi^-\pi^-K^+K^+K^-K^-\gamma$	17	1	18
19	$e^{+}e^{-} \rightarrow e^{-}\bar{\nu}_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{-}\gamma$	18	1	19
20	$e^{+}e^{-} \rightarrow \mu^{+}\nu_{\mu}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma$	19	1	20
21	$e^+e^- \to \mu^-\bar{\nu}_{\mu}K_LK_L\pi^+K^+K^-\gamma\gamma\gamma\gamma\gamma\gamma$	20	1	21
22	$e^{+}e^{-} \to e^{-}\bar{\nu}_{e}\mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}f_{0}(600)\gamma$	21	1	22
23	$e^+e^- \rightarrow \pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^-\gamma$	22	1	23
24	$e^{+}e^{-} \rightarrow K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}K^{+}\gamma$	23	1	24
25	$e^{+}e^{-} \rightarrow e^{+}e^{+}e^{-}\nu_{e}\mu^{-}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+$	24	1	25
26	$e^{+}e^{-} \to e^{+}\nu_{e}K_{L}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	25	1	26
27	$e^{+}e^{-} \to e^{+}\nu_{e}\mu^{+}\nu_{\mu}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}\gamma\gamma$	26	1	27
28	$e^{+}e^{-} \to \mu^{+}\mu^{-}\nu_{\mu}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma\gamma\gamma\gamma$	27	1	28
29	$e^+e^- \to e^+\nu_e\nu_\tau\bar{\nu}_\tau K_L\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+\gamma\gamma\gamma\gamma\gamma\gamma$	28	1	29
30	$e^+e^-  o K_L K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- \gamma \gamma \gamma \gamma \gamma \gamma \gamma \gamma$	29	1	30
31	$e^+e^- \to \mu^+\mu^-\nu_\mu\bar{\nu}_\mu\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\gamma\gamma\gamma\gamma\gamma$	30	1	31
32	$e^{+}e^{-} \to e^{+}e^{+}e^{-}\nu_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-$	31	1	32
33	$e^+e^- \to \mu^+\nu_\mu\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	32	1	33
34	$e^{+}e^{-} \to \mu^{-}\bar{\nu}_{\mu}\nu_{\tau}\bar{\nu}_{\tau}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}\gamma$	33	1	34
35	$e^{+}e^{-} \rightarrow \mu^{-}\bar{\nu}_{\mu}K_{L}\pi^{+}\pi^{+}\pi^{-}K^{+}K^{-}K^{-}\bar{n}p\gamma\gamma\gamma\gamma\gamma\gamma$	34	1	35
36	$e^{+}e^{-} \rightarrow e^{-}\bar{\nu}_{e}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}K^{+}n\bar{p}\gamma\gamma$	35	1	36
37	$e^+e^- \to \mu^+\nu_\mu\pi^+\pi^+\pi^-\pi^-\pi^-\gamma$	36	1	37
38	$e^+e^- \to K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- p \bar{p} \gamma \gamma \gamma \gamma \gamma \gamma \gamma$	37	1	38
39	$e^{+}e^{-} \rightarrow e^{+}\nu_{e}\mu^{+}\nu_{\mu}K_{L}\pi^{+}\pi^{-}\pi^{-}K^{-}\gamma$	38	1	39
40	$e^{+}e^{-} \to \pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	39	1	40

index	event initial-final states	iEvtIFSts	nEvts	nCmltEvts
41	$e^+e^- \to \mu^-\mu^-\bar{\nu}_\mu\bar{\nu}_\mu\pi^+\pi^+\pi^+K^+K^-K^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	40	1	41
42	$e^{+}e^{-} \to \mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma$	41	1	42
43	$e^{+}e^{-} \to \mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{-}K^{-}n\bar{p}\gamma$	42	1	43
44	$e^+e^- o e^-ar{ u}_e\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-K^-\gamma$	43	1	44
45	$e^{+}e^{-}  o \pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	44	1	45
46	$e^+e^- \to e^+e^-\mu^+\nu_\mu\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+K^+\gamma$	45	1	46
47	$e^{+}e^{-} \to K_L K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- K^+ \gamma \gamma$	46	1	47
48	$e^{+}e^{-} \to \mu^{-}\mu^{-}\bar{\nu}_{\mu}\bar{\nu}_{\mu}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}K^{+}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma$	47	1	48
49	$e^+e^- \to e^+ \nu_e \mu^- \mu^- \bar{\nu}_\mu \bar{\nu}_\mu K_L \pi^+ \pi^+ \pi^- \gamma \gamma$	48	1	49
50	$e^+e^-  o e^+e^-\mu^-\bar{\nu}_\mu K_L\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-K^-\gamma$	49	1	50
51	$e^+e^- \to e^+\nu_e\mu^-\bar{\nu}_\mu K_L\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-K^+f_0(600)\gamma\gamma$	50	1	51
52	$e^+e^- \rightarrow e^-\bar{\nu}_e K_L \pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-K^-\gamma\gamma\gamma\gamma\gamma\gamma$	51	1	52
53	$e^+e^- \to e^+\nu_e K_L \pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-K^+\gamma$	52	1	53
54	$e^+e^- \to \pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+K^+K^-\gamma$	53	1	54
55	$e^+e^- \to \pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-K^+\gamma$	54	1	55
56	$e^+e^- \to \mu^+\mu^-\nu_\mu\nu_\mu K_L\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-K^-n\bar{p}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	55	1	56
57	$e^+e^- \rightarrow e^+\nu_e K_L \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- \bar{n} p \gamma $	56	1	57
58	$e^{+}e^{-} \rightarrow \mu^{+}\mu^{-}\nu_{\mu}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\gamma$	57	1	58
59	$e^+e^- \to \mu^+\nu_\mu\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-K^-n\bar{p}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	58	1	59
60	$e^{+}e^{-} \to \mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-$	59	1	60
61	$e^+e^- \rightarrow e^- \bar{\nu}_e \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- K^- \gamma \gamma$	60	1	61
62	$e^{+}e^{-} \rightarrow e^{+}\nu_{e}K_{L}K_{L}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}f_{0}(600)\gamma\gamma\gamma\gamma$	61	1	62
63	$e^+e^- o e^-ar u_e\mu^-ar u_\mu\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+par u\gamma\gamma\gamma$	62	1	63
64	$e^+e^- \to e^+\nu_e\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+K^-\gamma$	63	1	64
65	$e^+e^- \rightarrow e^+\nu_e K_L\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-K^-\gamma\gamma\gamma\gamma\gamma$	64	1	65
66	$e^+e^- \to e^+\nu_e\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^-p\bar{p}\gamma$	65	1	66
67	$e^+e^- \to \mu^+\nu_\mu\nu_\tau\bar{\nu}_\tau\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+K^-\gamma\gamma\gamma\gamma\gamma\gamma$	66	1	67
68	$e^+e^- \to K_L K_L \pi^+ \pi^+ \pi^- \pi^- \pi^- K^+ K^- \gamma \gamma$	67	1	68
69	$e^{+}e^{-} \to e^{-}\bar{\nu}_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma$	68	1	69
70	$e^+e^- \to e^+\nu_e\pi^+\pi^+\pi^-\pi^-K^+K^-\gamma\gamma\gamma\gamma\gamma\gamma$	69	1	70
71	$e^+e^- ightarrow e^+ u_e K_L K_L \pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+K^-\gamma\gamma$	70	1	71
72	$e^+e^- \to e^-e^-\bar{\nu}_e\bar{\nu}_e\pi^+\pi^+\pi^+\pi^-\pi^-K^+K^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	71	1	72
73	$e^+e^- \to \pi^+\pi^+\pi^+\pi^-\pi^-K^+K^+K^-n\bar{p}\gamma\gamma\gamma\gamma$	72	1	73
74	$e^{+}e^{-} \to e^{+}e^{-}\nu_{e}\bar{\nu}_{e}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}K^{-}\bar{n}pf_{0}(600)\gamma\gamma$	73	1	74
75	$e^+e^- \to \mu^+\nu_\mu K_L K_L \pi^+\pi^+\pi^+\pi^-\pi^- K^+K^-K^-K^-\gamma$	74	1	75
76	$e^+e^-  o \mu^+ u_\mu K_L\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-K^+K^+K^-K^-\gamma$	75	1	76
77	$e^+e^- \to K_L K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- K^- \gamma \gamma$	76	1	77
78	$e^+e^- \to e^- \bar{\nu}_e \mu^+ \nu_\mu \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- \pi^- \pi^- K_S \gamma \gamma$	77	1	78
79	$e^+e^-  o e^+e^+e^- u_e u_ear{ u}_e\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-K^+K^-\gamma\gamma\gamma\gamma$	78	1	79
80	$e^{+}e^{-} \to e^{+}\nu_{e}\mu^{-}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	79	1	80

index	event initial-final states	iEvtIFSts	nEvts	nCmltEvts
81	$e^{+}e^{-} \to \mu^{+}\nu_{\mu}\nu_{\tau}\bar{\nu}_{\tau}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}\gamma$	80	1	81
82	$e^{+}e^{-} \to \mu^{-}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}K^{-}\gamma\gamma\gamma\gamma\gamma$	81	1	82
83	$e^+e^- \to \mu^-\bar{\nu}_\mu\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+K^+K^-\gamma$	82	1	83
84	$e^+e^- \rightarrow \pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+K^-K^-\gamma$	83	1	84
85	$e^+e^- \to e^- \bar{\nu}_e \mu^+ \nu_\mu K_L \pi^+ \pi^+ \pi^- \pi^- \pi^- \gamma \gamma$	84	1	85
86	$e^+e^- \to e^-e^-\bar{\nu}_e\bar{\nu}_e\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-K^+K^+K^-\bar{n}p\gamma$	85	1	86
87	$e^{+}e^{-} \to e^{-}\bar{\nu}_{e}\mu^{-}\bar{\nu}_{\mu}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma\gamma\gamma\gamma$	86	1	87
88	$e^+e^-  o \mu^+ \nu_\mu \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- K^+ K^- \gamma \gamma \gamma \gamma \gamma \gamma$	87	1	88
89	$e^{+}e^{-} \to \mu^{-}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}K^{+}K^{-}p\bar{p}\gamma\gamma$	88	1	89
90	$e^+e^- \to \mu^+\nu_\mu\pi^+\pi^-\pi^-\pi^-\pi^-K^+\bar{n}pf_0(600)\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	89	1	90
91	$e^{+}e^{-} \rightarrow \mu^{-}\mu^{-}\bar{\nu}_{\mu}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}K^{+}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma$	90	1	91
92	$e^+e^- \rightarrow e^+e^+e^-e^-\pi^+\pi^+\pi^-K^+K^-n\bar{p}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	91	1	92
93	$e^{+}e^{-} \to \mu^{+}\mu^{-}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{-}f_{0}(600)\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	92	1	93
94	$e^+e^- \to K_L K_L \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- K^+ f_0(600) \gamma \gamma$	93	1	94
95	$e^{+}e^{-} \rightarrow e^{+}e^{-}\mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma$	94	1	95
96	$e^{+}e^{-} \rightarrow e^{+}e^{-}\nu_{e}\bar{\nu}_{e}\pi^{+}\pi^{+}\pi^{-}\pi^{-}K^{+}K^{-}f_{0}(600)\gamma\gamma$	95	1	96
97	$e^+e^- \to K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- K^+ n \bar{p} \gamma \gamma \gamma \gamma \gamma$	96	1	97
98	$e^+e^- \to e^- \bar{\nu}_e \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- \pi^- \pi^- K^+ \gamma \gamma$	97	1	98
99	$e^{+}e^{-} \rightarrow K_{L}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma$	98	1	99
100	$e^{+}e^{-} \rightarrow \pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{-}K^{-}\gamma$	99	1	100
101	$e^+e^- \rightarrow e^+e^+e^-\nu_e\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	100	1	101
102	$e^+e^- \to e^-\bar{\nu}_e\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+\gamma$	101	1	102
103	$e^+e^- \to \pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-K^+K^-\gamma$	102	1	103
104	$e^+e^- \to \mu^+\nu_\mu\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^-\gamma$	103	1	104
105	$e^{+}e^{-} \rightarrow e^{-}\bar{\nu}_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+$	104	1	105
106	$e^+e^- \to e^- \bar{\nu}_e K_L \pi^+ \pi^+ \pi^- \pi^- K^+ K^- \gamma \gamma$	105	1	106
107	$e^{+}e^{-} \rightarrow e^{+}e^{-}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\gamma\gamma\gamma\gamma$	106	1	107
108	$e^+e^- \to e^+e^-\mu^-\nu_\mu\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+\gamma$	107	1	108
109	$e^+e^- \to \mu^-\bar{\nu}_\mu\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+\gamma\gamma\gamma\gamma\gamma\gamma$	108	1	109
110	$e^+e^- \to K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- K^- p\bar{p}\gamma$	109	1	110
111	$e^+e^- \to \mu^- \bar{\nu}_\mu K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- p \bar{p} \gamma \gamma$	110	1	111
112	$e^+e^-  ightarrow e^+  u_e \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- K^- \gamma \gamma$	111	1	112
113	$e^+e^- \rightarrow e^+\nu_e\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+n\bar{n}\gamma\gamma\gamma\gamma\gamma$	112	1	113
114	$e^+e^- \to K_L\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+K^-K^-\gamma$	113	1	114
115	$e^{+}e^{-} \to e^{-}\bar{\nu}_{e}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	114	1	115
116	$e^+e^- \to \mu^-\bar{\nu}_\mu\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-K^-\gamma$	115	1	116
117	$e^+e^-  o e^+ u_e K_L \pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+K^+K^-\gamma$	116	1	117
118	$e^{+}e^{-} \rightarrow e^{+}\nu_{e}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}K^{-}\gamma$	117	1	118
119	$e^{+}e^{-} \rightarrow e^{-}\bar{\nu}_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}\gamma$	118	1	119
120	$e^{+}e^{-} \to \mu^{-}\bar{\nu}_{\mu}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}K^{-}\gamma\gamma$	119	1	120

index	event initial-final states	iEvtIFSts	nEvts	nCmltEvts
121	$e^+e^- \rightarrow e^-\bar{\nu}_e\mu^-\bar{\nu}_\mu K_L\pi^+\pi^+\pi^+\pi^-K^-\gamma\gamma\gamma\gamma$	120	1	121
122	$e^{+}e^{-} \to \mu^{+}\nu_{\mu}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma\gamma\gamma\gamma\gamma\gamma$	121	1	122
123	$e^+e^- \rightarrow e^-e^-\bar{\nu}_e\bar{\nu}_e\mu^+\nu_\mu\pi^+\pi^+\pi^-K^+K^-\gamma\gamma\gamma\gamma$	122	1	123
124	$e^+e^- \to e^- \bar{\nu}_e \nu_\tau \bar{\nu}_\tau K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \gamma \gamma$	123	1	124
125	$e^+e^- \to e^+e^-\mu^-\bar{\nu}_\mu K_L K_L \pi^+\pi^+\pi^-\pi^- K^+\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	124	1	125
126	$e^+e^- \to e^+\nu_e\mu^+\mu^-\nu_\mu\bar{\nu}_\mu\pi^+\pi^+\pi^-\pi^-K^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	125	1	126
127	$e^+e^-  o e^+e^-\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	126	1	127
128	$e^{+}e^{-} \to e^{+}e^{-}e^{-}\nu_{e}\bar{\nu}_{e}\bar{\nu}_{e}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}K^{-}K^{-}\gamma\gamma\gamma\gamma$	127	1	128
129	$e^{+}e^{-} \to e^{+}e^{-}\nu_{e}\bar{\nu}_{e}\nu_{\tau}\bar{\nu}_{\tau}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\gamma\gamma\gamma\gamma$	128	1	129
130	$e^+e^- \to e^+e^-e^-\nu_e\nu_e\bar{\nu}_e\pi^+\pi^+\pi^-\pi^-K^+\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	129	1	130
131	$e^+e^- \to K_L \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- K^+ \gamma \gamma$	130	1	131
132	$e^{+}e^{-} \to e^{+}\nu_{e}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{-}K^{-}\gamma\gamma\gamma\gamma$	131	1	132
133	$e^{+}e^{-} \to e^{+}e^{-}\nu_{e}\bar{\nu}_{e}\mu^{+}\nu_{\mu}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}K^{+}K^{-}\gamma\gamma\gamma$	132	1	133
134	$e^+e^-  ightarrow  u_ au ar{ u}_ au K_L K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \gamma \gamma \gamma \gamma \gamma \gamma \gamma$	133	1	134
135	$e^+e^-  o \mu^- \bar{\nu}_\mu \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- K^+ K^- \gamma \gamma$	134	1	135
136	$e^{+}e^{-} \rightarrow K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}K^{-}f_{0}(600)\gamma\gamma\gamma\gamma\gamma$	135	1	136
137	$e^{+}e^{-} \rightarrow e^{+}e^{-}K_{L}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+$	136	1	137
138	$e^+e^- \to \pi^+\pi^+\pi^-\pi^-K^+K^-n\bar{n}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	137	1	138
139	$e^+e^- ightarrow e^+ u_e K_L\pi^+\pi^+\pi^-\pi^-\pi^-K^+K^-par p\gamma\gamma\gamma\gamma$	138	1	139
140	$e^+e^- \rightarrow e^- \bar{\nu}_e \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- \pi^- \pi^- \pi^- \pi^- K^+ K^+ K^+ \gamma \gamma$	139	1	140
141	$e^+e^- \rightarrow e^- \bar{\nu}_e \mu^+ \nu_\mu \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- K^+ \gamma \gamma \gamma \gamma \gamma \gamma$	140	1	141
142	$e^+e^- \rightarrow \mu^+\nu_\mu\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-K^+K^+K^-K^-K^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	141	1	142
143	$e^+e^- \rightarrow \pi^+\pi^+\pi^+\pi^+\pi^-\pi^-K^+K^-K^-K^-n\bar{n}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	142	1	143
144	$e^+e^- \to \mu^-\bar{\nu}_\mu \pi^+\pi^+\pi^+\pi^-K^+K^-K^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	143	1	144
145	$e^{+}e^{-} \rightarrow e^{-}\bar{\nu}_{e}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+$	144	1	145
146	$e^{+}e^{-} \to K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+$	145	1	146
147	$e^+e^-  o K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- \pi^- K^- \gamma \gamma$	146	1	147
148	$e^{+}e^{-} \rightarrow \mu^{-}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+$	147	1	148
149	$e^+e^-  o \pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	148	1	149
150	$e^+e^-  o \mu^+ \nu_\mu \nu_\tau \bar{\nu}_\tau K_L \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- K^+ K^- K^- \gamma \gamma$	149	1	150
151	$e^{+}e^{-} \rightarrow e^{+}e^{-}\nu_{e}\bar{\nu}_{e}\mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}\gamma\gamma$	150	1	151
152	$e^+e^- \rightarrow e^-\nu_e\mu^-\bar{\nu}_\mu\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-K^+n\bar{p}\gamma$	151	1	152
153	$e^{+}e^{-} \rightarrow e^{-}\bar{\nu}_{e}\mu^{-}\nu_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	152	1	153
154	$e^+e^- \rightarrow \pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+K^+K^-\gamma$	153	1	154
155	$e^+e^-  o e^-ar{ u}_e\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-K^+K^-\gamma$	154	1	155
156	$e^{+}e^{-}\rightarrow\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}\gamma$	155	1	156
157	$e^+e^- \rightarrow e^+e^+\nu_e\nu_e\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	156	1	157
158	$e^{+}e^{-} \rightarrow \mu^{-}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-$	157	1	158
159	$e^{+}e^{-}  e^{-}\bar{\nu}_{e}\mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}f_{0}(600)\gamma\gamma\gamma\gamma\gamma$	158	1	159
160	$e^+e^- \rightarrow e^+e^-\nu_e\bar{\nu}_e\mu^+\nu_\mu\pi^+\pi^-\pi^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	159	1	160

index	event initial-final states	iEvtIFSts	nEvts	nCmltEvts
161	$e^+e^- \to K_L \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- \pi^- K^+ K^+ K^- f_0(600) \gamma \gamma$	160	1	161
162	$e^{+}e^{-} \rightarrow \mu^{+}\mu^{-}\nu_{\mu}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}K^{-}K^{-}\gamma$	161	1	162
163	$e^{+}e^{-} \to \mu^{-}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	162	1	163
164	$e^{+}e^{-} \rightarrow \mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}p\bar{p}\gamma$	163	1	164
165	$e^+e^- \to e^+\nu_e\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-K^+\gamma$	164	1	165
166	$e^+e^-  o \mu^+\mu^- u_\mu \bar{\nu}_\mu K_L \pi^+\pi^+\pi^- K^- n \bar{n} \gamma \gamma \gamma \gamma \gamma$	165	1	166
167	$e^+e^- \to e^+e^-\nu_\tau \bar{\nu}_\tau \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- K^+ K^- \bar{n}p\gamma\gamma\gamma\gamma\gamma$	166	1	167
168	$e^+e^- \to K_L K_L \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- K^+ K^+ K^- K^- \gamma \gamma$	167	1	168
169	$e^+e^- \to \pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+K^-K^-\gamma$	168	1	169
170	$e^{+}e^{-} \to \mu^{+}\mu^{-}\nu_{\mu}\bar{\nu}_{\mu}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{+}\gamma\gamma\gamma\gamma\gamma$	169	1	170
171	$e^+e^- \to K_L \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- n \bar{n} \gamma \gamma$	170	1	171
172	$e^{+}e^{-} \rightarrow \mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma$	171	1	172
173	$e^{+}e^{-} \rightarrow \pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}K^{-}\gamma$	172	1	173
174	$e^+e^- \to \mu^-\bar{\nu}_\mu\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^+K^-K^-\gamma$	173	1	174
175	$e^+e^- \to K_L K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- K^- K^- K^- \gamma \gamma$	174	1	175
176	$e^+e^- \to \nu_{\tau}\bar{\nu}_{\tau}\pi^+\pi^+\pi^-\pi^-\pi^-K^+K^-\bar{n}p\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	175	1	176
177	$e^+e^- \to e^-\bar{\nu}_e K_L K_L K_L \pi^+ \pi^+ \pi^- K^- \bar{n} p \gamma \gamma \gamma \gamma \gamma$	176	1	177
178	$e^+e^- \to K_L \pi^+ \pi^- K^+ K^- K^- \bar{n} p \gamma $	177	1	178
179	$e^+e^- o e^+ u_e\mu^-ar u_\mu\pi^+\pi^+\pi^+\pi^-K^-K^-nar n\gamma\gamma$	178	1	179
180	$e^+e^- \to e^+\nu_e\mu^+\nu_\mu\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	179	1	180
181	$e^+e^- ightarrow \mu^+ u_\mu\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-K^-par p\gamma\gamma\gamma\gamma\gamma$	180	1	181
182	$e^{+}e^{-} \to \mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}\gamma$	181	1	182
183	$e^+e^- \rightarrow e^+\nu_e K_L \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- K^- K^- \gamma \gamma$	182	1	183
184	$e^{+}e^{-} \to \mu^{+}\nu_{\mu}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{+}\gamma$	183	1	184
185	$e^+e^- \to e^- \bar{\nu}_e \mu^+ \nu_\mu \pi^+ \pi^+ \pi^- \pi^- n \bar{n} \gamma \gamma$	184	1	185
186	$e^+e^- \to e^+\nu_e K_L K_L \pi^+\pi^-\pi^-\pi^-\pi^-K^+K^+\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	185	1	186
187	$e^+e^- \to \mu^+\mu^+\mu^-\nu_\mu\nu_\mu\bar{\nu}_\mu K_L\pi^+\pi^+\pi^-\pi^-\gamma\gamma\gamma\gamma\gamma$	186	1	187
188	$e^{+}e^{-} \to e^{+}\nu_{e}\mu^{-}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}K^{+}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma$	187	1	188
189	$e^+e^- \to e^- \bar{\nu}_e K_L K_L \pi^+ \pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- K^+ K^- \gamma \gamma$	188	1	189
190	$e^+e^- \to K_L \pi^+ \pi^+ \pi^- \pi^- K^- \gamma \gamma$	189	1	190
191	$e^+e^- \to e^+\nu_e K_L \pi^+\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-\pi^-K^+p\bar{p}\gamma\gamma\gamma\gamma\gamma\gamma$	190	1	191
192	$e^+e^- \to e^+e^-\nu_e\bar{\nu}_eK_L\pi^+\pi^+\pi^+\pi^-\pi^-K^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	191	1	192
193	$e^{+}e^{-} \to K_{L}K_{L}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}\pi^{-}K^{-}\gamma\gamma\gamma\gamma\gamma\gamma$	192	1	193
194	$e^+e^- \to e^+\nu_e\pi^+\pi^+\pi^-\pi^-\pi^-K^+K^+K^-\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	193	1	194
195	$e^+e^- \to e^+\nu_e\pi^+\pi^+\pi^-\pi^-\pi^-\gamma$	194	1	195
196	$e^+e^- \to e^-e^-\bar{\nu}_e\bar{\nu}_e K_L K_L \pi^+\pi^+\pi^+\pi^+\pi^+\pi^-K^-n\bar{n}\gamma\gamma\gamma\gamma\gamma\gamma\gamma\gamma$	195	1	196
197	$e^{+}e^{-} \rightarrow e^{+}e^{+}e^{-}\nu_{e}\mu^{+}\nu_{\mu}\pi^{-}\pi^{-}\pi^{-}K^{+}n\bar{n}\gamma$	196	1	197
198	$e^+e^- \to K_L \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^- K^+ n \bar{n} \gamma \gamma \gamma \gamma \gamma \gamma$	197	1	198
199	$e^+e^- \to e^-\bar{\nu}_e\mu^+\nu_\mu\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^-\pi^-K^+K^+\gamma$	198	1	199
200	$e^{+}e^{-} \rightarrow e^{-}\bar{\nu}_{e}\mu^{-}\bar{\nu}_{\mu}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+}\pi^{+$	199	1	200