μ	Label	Changed physics	Variation	#BHBH	#BHNS	#NSNS
A	fiducial	–	–	8 371 398	1 525 553	233 137
B	$\beta = 0.25$	mass transfer	fixed mass transfer efficiency of $\beta = 0.25$	8 616 008	738 537	41 984
C	$\beta = 0.5$	mass transfer	fixed mass transfer efficiency of $\beta = 0.5$	6 568 454	148 043	45 070
D	$\beta = 0.75$	mass transfer	fixed mass transfer efficiency of $\beta = 0.75$	6 033 721	118 921	292 349
E	unstable case BB	mass transfer	case BB mass transfer is always unstable	9 274 636	458 667	371
F	E + J		variation E and J	9 782 847	828 558	7 491
G	$\alpha_{\mathrm{CE}} = 0.1$	CE	CE efficiency parameter $\alpha_{\mathrm{CE}} = 0.5$	6 338 030	22 395	345 779
H	$\alpha_{\mathrm{CE}} = 0.5$	CE	CE efficiency parameter $\alpha_{\mathrm{CE}} = 0.5$	7 958 497	915 179	64 260
I	$\alpha_{\mathrm{CE}} = 2$	CE	CE efficiency parameter $\alpha_{\mathrm{CE}} = 2$	6 212 236	833 433	1 052 472
J	$\alpha_{\mathrm{CE}} = 10$	CE	CE efficiency parameter $\alpha_{\mathrm{CE}} = 2$	3 514 443	441 924	579 059
K	optimistic CE	CE	HG donor stars initiating a CE survive CE	8 782 290	1 535 042	234 963
L	rapid SN	SN	Fryer rapid SN remnant mass prescription	7 463 923	2 766 298	146 467
M	max $m_{\mathrm{NS}} = 2$	SN	maximum NS mass is fixed to 2	8 879 317	959 796	213 669
N	max $m_{\mathrm{NS}} = 3$	SN	maximum NS mass is fixed to 3	7 906 131	1 990 330	238 111
O	no PISN	SN	we no PISN and pulsational-PISN	8 547 080	1 524 497	233 190
P	SN $\sigma_{\mathrm{rms}}^{\mathrm{1D}} = 100$	SN	$\sigma_{\mathrm{rms}}^{\mathrm{1D}} = 100$ for core-collapse SNe	8 106 172	3 049 458	415 335
Q	SN $\sigma_{\mathrm{rms}}^{\mathrm{1D}} = 30$	SN	$\sigma_{\mathrm{rms}}^{\mathrm{1D}} = 30$ for core-collapse SNe	7 609 741	4 198 238	626 019
R	SN $v_{\mathrm{k,BH}} = 0$	SN	we assume BH receive no natal kick	8 777 168	5 068 628	155 208
S	$f_{\mathrm{WR}} = 0.1$	stellar wind	wolf-rayet wind factor $f_{\mathrm{WR}} = 0.1$	8 921 965	1 379 487	191 544
T	$f_{\mathrm{WR}} = 5$	stellar wind	wolf-rayet wind factor $f_{\mathrm{WR}} = 5$	6 748 472	938 755	276 279