

**Table 1.** Calculated variation of the ratios and abundances of common-earth Sr isotopes with repeated fractionation. (A) shows the variation from isotopically normal to heavy while (B) shows the variation from isotopically normal to light.  $\beta = 0.1$ .

A. Isotopically Normal to Heavy Strontium

Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{88}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
0	11.797143000	8.375253500	0.119399371	147.464290000	0.056795130	0.709939135	0.709939135	0.069999999	0.098600001	0.005600000
1	11.820737286	8.412942141	0.118864481	148.702990036	0.056575474	0.711710440	0.711710440	0.069904184	0.098219978	0.005556842
2	11.844378761	8.450800380	0.118331987	149.952095152	0.056356668	0.713486165	0.713486165	0.069808343	0.097841200	0.005514004
3	11.868067518	8.488828982	0.117801878	151.211692752	0.056138707	0.715266320	0.715266320	0.069712476	0.097463664	0.005471484
4	11.891803653	8.527028713	0.117274145	152.481870971	0.055921590	0.717050917	0.717050917	0.069616586	0.097087367	0.005429280
5	11.915587260	8.565400342	0.116748775	153.762718687	0.055705313	0.718839966	0.718839966	0.069520672	0.096712307	0.005387389
10	12.035220711	8.759864166	0.114157021	160.330163038	0.054636408	0.727852391	0.727852391	0.069040791	0.094855485	0.005182563
20	12.278103059	9.162137027	0.109144842	174.318549798	0.052559736	0.746217635	0.746217635	0.068079871	0.091233264	0.004795196
50	13.036557375	10.483227610	0.095390469	224.041625195	0.046791428	0.804140795	0.804140795	0.065196236	0.081075648	0.003793645
100	14.406185310	13.121759375	0.076209293	340.385118458	0.038549745	0.910842051	0.910842051	0.060436130	0.066351932	0.002557850
150	15.919707114	16.424385264	0.060885079	517.145100903	0.031759723	1.031701472	1.031701472	0.055804308	0.054089588	0.001717870
200	17.592240358	20.558251650	0.048642269	785.695498673	0.026165673	1.168597702	1.168597702	0.051360125	0.043950219	0.001149987
300	21.482919603	32.209225823	0.031047005	1813.5852103	0.017759974	1.499294622	1.499294622	0.043174639	0.028796634	0.000511427
500	32.035950164	79.062128677	0.012648281	9662.8528586	0.008182069	2.467918956	2.467918956	0.029900314	0.012115598	0.000099131
1000	86.995817796	746.343999133	0.001339865	633175.1597	0.001178732	8.579079064	8.579079064	0.011349125	0.001322884	0.000001559
3000	4730.8746108	5926812.8502	0.000000169	1.16734E+13	0.000000508	1252.7943219	1252.7943219	0.000211333	0.000000169	8.56466E-14

B. Isotopically Normal to Light Strontium

Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{88}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
0	11.797143000	8.375253500	0.119399371	147.46429	0.056795130	0.709939135	0.709939135	0.069999999	0.098600001	0.005600000
-1	11.773595808	8.337733698	0.119936668	146.2359084	0.057015639	0.708172238	0.708172238	0.070095787	0.098981269	0.005643480
-2	11.750095617	8.300381979	0.120476383	145.0177592	0.057237003	0.706409739	0.706409739	0.070191546	0.099363786	0.005687285
-3	11.726642332	8.263197590	0.121018527	143.8097572	0.057459228	0.704651626	0.704651626	0.070287276	0.099747554	0.005731417
-4	11.703235861	8.226179781	0.121563110	142.611818	0.057682315	0.702897889	0.702897889	0.070382976	0.100132576	0.005775879
-5	11.679876109	8.189327806	0.122110144	141.4238576	0.057906268	0.701148516	0.701148516	0.070478644	0.100518852	0.005820672
-10	11.563774883	8.007529553	0.124882461	135.6308533	0.059039145	0.692466745	0.692466745	0.070956474	0.102469143	0.006049691
-20	11.335023195	7.655950897	0.130617348	124.747004	0.061371822	0.675424370	0.675424370	0.071909140	0.106465126	0.006533959
-50	10.675562494	6.691152172	0.149451092	97.06105643	0.068937558	0.626772798	0.626772798	0.074732690	0.119234099	0.008219708
-100	9.660613130	5.345691015	0.187066555	63.88562733	0.083675957	0.553349041	0.553349041	0.079245531	0.143210750	0.011983297
-150	8.742157250	4.270776048	0.234149482	42.04954622	0.101565330	0.488526565	0.488526565	0.083353962	0.170623193	0.017329401
-200	7.911021003	3.412005670	0.293082749	27.67702865	0.123279334	0.431297764	0.431297764	0.086839943	0.201345683	0.024821762
-300	6.478289987	2.177788177	0.459181481	11.99045774	0.181626776	0.336167134	0.336167134	0.090964597	0.270593367	0.049147001
-500	4.344262688	0.887212024	1.127126294	2.250444785	0.394238521	0.204226146	0.204226146	0.082161186	0.402304935	0.158604103
-1000	1.599761764	0.093984639	10.640036634	0.03434392	2.736572869	0.058749147	0.058749147	0.015105301	0.257115236	0.703614580
-3000	0.029417939	0.000011835	84493.887432	1.86284E-09	6353.2926018	0.000402312	0.000402312	0.000000063	0.000157374	0.999842561

**Table 2.** Calculated variation of the ratios and abundances of common-earth Sr isotopes with repeated fractionation from isotopically normal to heavy.  $\beta = 0.05$ . Note that the average obtained by mixing equal volumes of materials fractionated from a range of zero to 200 times, is almost identical to the isotopic abundance after 100 continuous episodes of fractionation.

Number of Fractionations	$^{87}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{88}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
10	11.93947562	8.544274184	0.117037443	154.2361852	0.055397339	0.715632282	0.828310474	0.069375783	0.09694334	0.005370403
20	12.08352549	8.716705868	0.114722237	161.3190612	0.054033949	0.721371083	0.830786669	0.068753665	0.095309706	0.00514996
30	12.22931332	8.89261739	0.112452831	168.7271989	0.052704113	0.727155905	0.833228973	0.06813375	0.093698957	0.00493832
40	12.37686008	9.072078976	0.110228317	176.4755351	0.051407006	0.732987116	0.835637771	0.067516136	0.092110945	0.004735148
50	12.52618699	9.25516227	0.108047808	184.5796926	0.050141823	0.738865089	0.838013446	0.066900921	0.090545516	0.004540117
60	12.67731554	9.44194036	0.105910434	193.0560114	0.048907777	0.744790199	0.84035638	0.066288196	0.089002509	0.004352915
70	12.83026745	9.632487813	0.10381534	201.921582	0.047704102	0.750762823	0.842666954	0.065678051	0.087481757	0.004173239
80	12.98506472	9.826880696	0.101761691	211.1942797	0.046530051	0.756783343	0.844945546	0.065070569	0.085983088	0.004000797
90	13.14172963	10.02519662	0.099748667	220.8928007	0.045384895	0.762852143	0.847192532	0.064465832	0.084506326	0.003835311
100	13.3002847	10.22751474	0.097775464	231.0366999	0.044267923	0.76896961	0.849408285	0.063863918	0.083051289	0.003676508
110	13.46075274	10.43391584	0.095841294	241.64643	0.04317844	0.775136134	0.851593178	0.0632649	0.081617793	0.003524129
120	13.62315683	10.64448232	0.093945386	252.743383	0.042115771	0.781352109	0.853747581	0.062668851	0.080205646	0.003377923
130	13.78752032	10.85929822	0.092086982	264.3499333	0.041079255	0.787617931	0.855871859	0.062075837	0.078814657	0.003237647
140	13.95386686	11.07844932	0.09026534	276.4894827	0.040068249	0.793933399	0.857966379	0.061485923	0.077444627	0.003103071
150	14.12222037	11.3020231	0.088479734	289.1865078	0.039082125	0.800300718	0.860031503	0.06089917	0.076095359	0.002973968
160	14.29260507	11.53010882	0.08672945	302.4666092	0.03812027	0.806718493	0.862067589	0.060315638	0.074766648	0.002850125
170	14.46504546	11.76279752	0.08501379	316.3565629	0.037182088	0.813187733	0.864074996	0.059735381	0.07345829	0.002731333
180	14.63956635	12.00018211	0.083332069	330.8843749	0.036266995	0.819708851	0.866054078	0.059158452	0.072170078	0.002617392
190	14.81619283	12.24235734	0.081683615	346.0793371	0.035374424	0.826282263	0.868005187	0.058584901	0.070901801	0.00250811
200	14.99495031	12.48941991	0.08006777	361.9720864	0.034503821	0.832908389	0.869928673	0.058014775	0.069653249	0.002403303
Average	13.28044662	10.17238009	0.09830541	223.6606145	0.045481321	0.765966717	0.848842288	0.063916697	0.08344579	0.003795225
Compare with 100 Fractionations										
100 Fractionations	13.3002847	10.22751474	0.097775464	231.0366999	0.044267923	0.76896961	0.849408285	0.063863918	0.083051289	0.003676508

**Table 3.** Mixtures of assorted combinations of fractionated and unfractionated common-earth Sr.  $\beta = 0.5$  (first), and 0.1 (rest). The simulations are intended to approach a final  $^{86}\text{Sr}/^{88}\text{Sr}$  ratio of 0.1194. However, it can be seen that mixtures of previously-fractionated strontium cannot be combined in any manner that elevates the  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios and simultaneously recovers the near-normal bulk-Earth  $^{86}\text{Sr}/^{88}\text{Sr}$  and  $^{84}\text{Sr}/^{88}\text{Sr}$  ratios.

Mixing Simulation 1:

Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
2000	129.8550118	455.4503325	0.002195629	1171032.727	0.00038893	3.50737585	0.990199619	0.007625425	0.002174111	8.45578E-07
-448	6.89350515	3.421832249	0.292241094	19.72937186	0.173438479	0.496384956	0.672047063	0.097489891	0.196399769	0.034063277
Average	15.81355368	8.370923111	0.119461138	48.79757776	0.171543824	0.529351168	0.831123341	0.052557658	0.09928694	0.017032061

Mixing Simulation 2:

Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
-1000	1.599761764	0.093984639	10.64003663	0.03434392	2.736572869	0.058749147	0.024164883	0.015105301	0.257115236	0.70361458
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
10	12.03522071	8.759864166	0.114157021	160.330163	0.054636408	0.727852391	0.830921161	0.069040791	0.094855485	0.005182563
10	12.03522071	8.759864166	0.114157021	160.330163	0.054636408	0.727852391	0.830921161	0.069040791	0.094855485	0.005182563
10	12.03522071	8.759864166	0.114157021	160.330163	0.054636408	0.727852391	0.830921161	0.069040791	0.094855485	0.005182563
10	12.03522071	8.759864166	0.114157021	160.330163	0.054636408	0.727852391	0.830921161	0.069040791	0.094855485	0.005182563
10	12.03522071	8.759864166	0.114157021	160.330163	0.054636408	0.727852391	0.830921161	0.069040791	0.094855485	0.005182563
1000	86.9958178	746.3439991	0.001339865	633175.1597	0.001178732	8.579079064	0.987326432	0.011349125	0.001322884	1.55933E-06
1000	86.9958178	746.3439991	0.001339865	633175.1597	0.001178732	8.579079064	0.987326432	0.011349125	0.001322884	1.55933E-06
Average	14.92334902	8.381337487	0.119312699	10.53692728	0.7954252	0.561625777	0.780502355	0.052300751	0.093123843	0.074073051

Mixing Simulation 3:

Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
100	14.40618531	13.12175937	0.076209293	340.3851185	0.038549745	0.910842051	0.870654088	0.06043613	0.066351932	0.00255785
100	14.40618531	13.12175937	0.076209293	340.3851185	0.038549745	0.910842051	0.870654088	0.06043613	0.066351932	0.00255785
250	19.44049087	25.7325741	0.03886125	1193.702533	0.02155694	1.32365866	0.916474351	0.047142552	0.035615339	0.000767758
Average	12.51748106	9.371380401	0.106707866	173.9920155	0.05386098	0.748666348	0.838684466	0.067001057	0.089494229	0.004820247

**Table 4.** Repeated fractionation of previously-fractionated mixtures of Sr.  $\beta = 0.05$  (first), and  $0.1$  (last one). The simulations are intended to approach a final  $^{86}\text{Sr}/^{88}\text{Sr}$  ratio of  $0.1194$ . Note that the elevated  $^{87}\text{Sr}/^{86}\text{Sr}$  ratio not only disappears, but becomes smaller than the bulk-Earth  $^{87}\text{Sr}/^{86}\text{Sr}$  ratio of  $0.7$ . Thus, the  $^{87}\text{Sr}/^{86}\text{Sr}$  ratio can be lowered, but not elevated, by a complex alternating series of mixings and fractionations.

Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
2000	129.8550118	455.4503325	0.002195629	1171032.727	0.00038893	3.50737585	0.990199619	0.007625425	0.002174111	8.45578E-07
100	13.3002847	10.22751474	0.097775464	231.0366999	0.044267923	0.76896961	0.849408285	0.063863918	0.083051289	0.003676508
150	14.12222037	11.3020231	0.088479734	289.1865078	0.039082125	0.800300718	0.860031503	0.06089917	0.076095359	0.002973968
-1000	3.55578839	1.135733484	0.880488261	1.65480102	0.686326314	0.319404126	0.36153001	0.101673657	0.31832293	0.218473403
1000	39.1397259	61.76173566	0.016191255	13140.98587	0.004699932	1.577980791	0.959861619	0.024523974	0.015541364	7.30433E-05
3000	430.8237656	3358.63303	0.00029774	104354244.2	3.21849E-05	7.795839734	0.997387956	0.002315072	0.000296962	9.55771E-09
Average	19.2349391	10.12835751	0.098732692	22.28449606	0.454502425	0.526560415	0.836403165	0.043483536	0.082580336	0.037532963
Refractionation:										
-95	17.16370046	8.377327175	0.119369816	14.54649676	0.575899979	0.488083977	0.802325213	0.046745468	0.095773413	0.055155906

Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
2000	129.8550118	455.4503325	0.002195629	1171032.727	0.00038893	3.50737585	0.990199619	0.007625425	0.002174111	8.45578E-07
-2000	1.07175365	0.15401212	6.492995493	0.018569692	8.293735921	0.143701045	0.016057232	0.014982204	0.104259533	0.864701032
Average	44.5096153	9.454311757	0.105771845	1.163703788	8.124328419	0.212410548	0.503128425	0.011303814	0.053216822	0.432350939
Refractionation:										
-60	41.41936005	8.38622726	0.119243132	0.88888583	9.434538135	0.202471193	0.440841243	0.010643362	0.05256729	0.495948105

Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
0	11.797143	8.3752535	0.119399371	147.46429	0.05679513	0.709939135	0.8258	0.069999999	0.098600001	0.0056
-200	7.911021003	3.41200567	0.293082749	27.67702865	0.123279334	0.431297764	0.686992612	0.086839943	0.201345683	0.024821762
-300	6.478289987	2.177788177	0.459181481	11.99045774	0.181626776	0.336167134	0.589295036	0.090964597	0.270593367	0.049147001
-500	4.344262688	0.887212024	1.127126294	2.250444785	0.394238521	0.204226146	0.356929776	0.082161186	0.402304935	0.158604103
-1000	1.599761764	0.093984639	10.64003663	0.03434392	2.736572869	0.058749147	0.024164883	0.015105301	0.257115236	0.70361458
-200	7.911021003	3.41200567	0.293082749	27.67702865	0.123279334	0.431297764	0.686992612	0.086839943	0.201345683	0.024821762
-300	6.478289987	2.177788177	0.459181481	11.99045774	0.181626776	0.336167134	0.589295036	0.090964597	0.270593367	0.049147001
-500	4.344262688	0.887212024	1.127126294	2.250444785	0.394238521	0.204226146	0.356929776	0.082161186	0.402304935	0.158604103
-1000	1.599761764	0.093984639	10.64003663	0.03434392	2.736572869	0.058749147	0.024164883	0.015105301	0.257115236	0.70361458
-200	7.911021003	3.41200567	0.293082749	27.67702865	0.123279334	0.431297764	0.686992612	0.086839943	0.201345683	0.024821762
-300	6.478289987	2.177788177	0.459181481	11.99045774	0.181626776	0.336167134	0.589295036	0.090964597	0.270593367	0.049147001
-500	4.344262688	0.887212024	1.127126294	2.250444785	0.394238521	0.204226146	0.356929776	0.082161186	0.402304935	0.158604103
-1000	1.599761764	0.093984639	10.64003663	0.03434392	2.736572869	0.058749147	0.024164883	0.015105301	0.257115236	0.70361458
-200	7.911021003	3.41200567	0.293082749	27.67702865	0.123279334	0.431297764	0.686992612	0.086839943	0.201345683	0.024821762
-300	6.478289987	2.177788177	0.459181481	11.99045774	0.181626776	0.336167134	0.589295036	0.090964597	0.270593367	0.049147001
-500	4.344262688	0.887212024	1.127126294	2.250444785	0.394238521	0.204226146	0.356929776	0.082161186	0.402304935	0.158604103
-1000	1.599761764	0.093984639	10.64003663	0.03434392	2.736572869	0.058749147	0.024164883	0.015105301	0.257115236	0.70361458
Average	6.950347027	1.888919677	0.529403136	2.421057744	0.780204306	0.271773434	0.479312065	0.068962321	0.25374931	0.197976304
Refractionation:										
331.68	13.483802	8.374713322	0.119407072	38.81007887	0.215787073	0.621094356	0.820118064	0.060822464	0.097927897	0.021131574

**Table 5.** Fractionation of Sr isotopes whose original ratios were comparable to those modelled to occur as a result of certain stellar nucleosynthetic processes, and which are very different from those encountered in bulk Earth materials and used in Tables 1–4.  $\beta = 0.05$ .

Reference Values: Bulk Earth Strontium Isotopic Ratios:							Standard Normalized Isotopic Abundances:			
Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
0	11.79714286	8.37525355	0.11939937	147.4642857	0.056795132	0.709939148	0.8258	0.07	0.0986	0.0056

Simulation 1:

Altered Isotopic Ratios Before and After Fractionation:							Prescribed Non-Normalized Abundances:			
Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
0	8.928571429	6.25	0.16	125	0.05	0.7	0.78125	0.0875	0.125	0.00625
146	10.63713703	8.366953607	0.119517813	240.769467	0.034750891	0.78657947	0.821232862	0.077204314	0.098151956	0.003410868

Simulation 2:

Altered Isotopic Ratios Before and After Fractionation:							Prescribed Non-Normalized Abundances:			
Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
0	0.014285714	0.01	100	0.00005	200	0.7	4.95761E-05	0.003470329	0.004957612	0.991522483
3368	0.811137039	8.365388542	0.119540174	184.6594663	0.045301704	10.31316305	0.42412547	0.5228777	0.050700032	0.002296798

Simulation 3:

Altered Isotopic Ratios Before and After Fractionation:							Prescribed Non-Normalized Abundances:			
Number of Fractionations	$^{88}\text{Sr}/^{87}\text{Sr}$	$^{88}\text{Sr}/^{86}\text{Sr}$	$^{86}\text{Sr}/^{88}\text{Sr}$	$^{88}\text{Sr}/^{84}\text{Sr}$	$^{84}\text{Sr}/^{86}\text{Sr}$	$^{87}\text{Sr}/^{86}\text{Sr}$	$^{88}\text{Sr}$ Abundance	$^{87}\text{Sr}$ Abundance	$^{86}\text{Sr}$ Abundance	$^{84}\text{Sr}$ Abundance
0	1.42857E-09	0.000000001	1000000000	1E-20	1E+11	0.7	1E-20	7E-12	1E-11	1
11435	0.001290381	8.36364729	0.119565061	198.4158211	0.042152119	6481.531624	0.001288511	0.998550934	0.000154061	6.494E-06