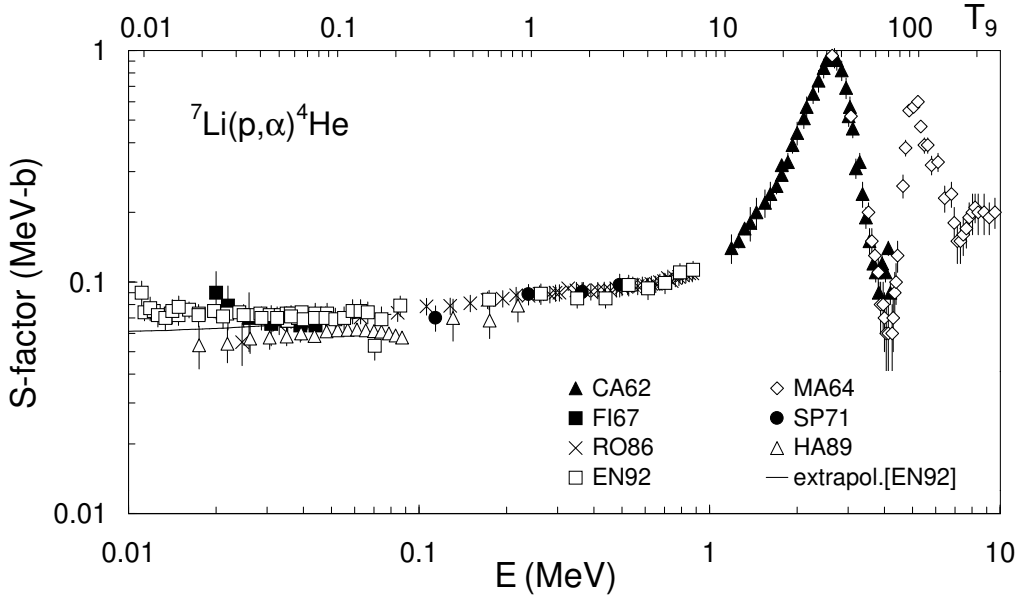
Reaction : ^{7}Li(p,α)^{4}He

Experimental cross section data from CA62, MA64, FI67, SP71, RO86, HA89 and EN92 are adopted. The low energy data of EN92 are corrected for electron screening with $U_e = 300$ eV. The original data of SP71 and HA89 represent the number of α-particles emitted per proton. In order to obtain the total cross section, we divide their values by a factor of 2. For the calculation of the rates, a smooth spline fit to all data is adopted. For $E \leq 0.9$ MeV, the approximation of the "bare" nucleus S-factor given in EN92 is adopted, $S(E) = 0.0593 + 0.193\,E - 0.355\,E^2 + 0.236\,E^3$ (E in MeV, $S(E)$ in MeV b). The differences between the adopted rates and the CA88 ones (about 30%) are probably due to the higher accuracy of the numerical integration used here.



T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio
0.001	0.98	1.13	1.28	-26	1.1	0.04	1.01	1.16	1.30	-1	1.1	0.5	3.29	3.65	4.01	4	1.0
0.002	2.42	2.79	3.16	-19	1.1	0.05	5.25	5.97	6.70	-1	1.1	0.6	5.60	6.20	6.79	4	1.0
0.003	0.91	1.05	1.19	-15	1.1	0.06	1.83	2.08	2.33	0	1.1	0.7	8.55	9.44	1.03	4	1.0
0.004	1.63	1.88	2.13	-13	1.1	0.07	4.95	5.62	6.29	0	1.1	0.8	1.21	1.33	1.45	5	1.0
0.005	6.47	7.45	8.44	-12	1.1	0.08	1.12	1.27	1.42	1	1.0	0.9	1.61	1.77	1.93	5	1.0
0.006	1.07	1.23	1.39	-10	1.1	0.09	2.24	2.53	2.83	1	1.0	1	2.07	2.27	2.47	5	1.0
0.007	1.00	1.15	1.30	-9	1.1	0.1	4.05	4.58	5.11	1	1.0	1.25	3.38	3.70	4.02	5	1.0
0.008	6.32	7.27	8.22	-9	1.1	0.11	6.80	7.68	8.55	1	1.0	1.5	4.87	5.33	5.79	5	1.0
0.009	2.99	3.44	3.89	-8	1.1	0.12	1.07	1.21	1.35	2	1.0	1.75	6.56	7.18	7.80	5	1.0
0.01	1.14	1.31	1.48	-7	1.1	0.13	1.61	1.82	2.02	2	1.0	2	8.38	9.19	10.00	5	1.1
0.011	3.68	4.23	4.77	-7	1.1	0.14	2.32	2.62	2.91	2	1.0	2.5	1.25	1.38	1.50	6	1.1
0.012	1.03	1.19	1.34	-6	1.1	0.15	3.24	3.65	4.05	2	1.0	3	1.75	1.93	2.11	6	1.2
0.013	2.61	2.99	3.38	-6	1.1	0.16	4.38	4.93	5.48	2	1.0	3.5	2.35	2.60	2.85	6	1.3
0.014	5.99	6.88	7.76	-6	1.1	0.18	7.47	8.40	9.34	2	1.0	4	3.10	3.43	3.77	6	1.3
0.015	1.28	1.46	1.65	-5	1.1	0.2	1.18	1.33	1.47	3	1.0	5	4.94	5.48	6.02	6	1.1
0.016	2.55	2.92	3.30	-5	1.1	0.25	2.94	3.30	3.66	3	1.0	6	7.05	7.81	8.58	6	1.0
0.018	8.64	9.90	11.2	-5	1.1	0.3	5.89	6.60	7.31	3	1.0	7	0.92	1.02	1.12	7	0.9
0.02	2.47	2.83	3.19	-4	1.1	0.35	1.02	1.14	1.26	4	1.0	8	1.13	1.25	1.37	7	0.9
0.025	2.02	2.31	2.60	-3	1.1	0.4	1.61	1.80	1.99	4	1.0	9	1.33	1.48	1.62	7	0.8
0.03	1.00	1.14	1.28	-2	1.1	0.45	2.35	2.62	2.89	4	1.0	10	1.52	1.68	1.84	7	0.8