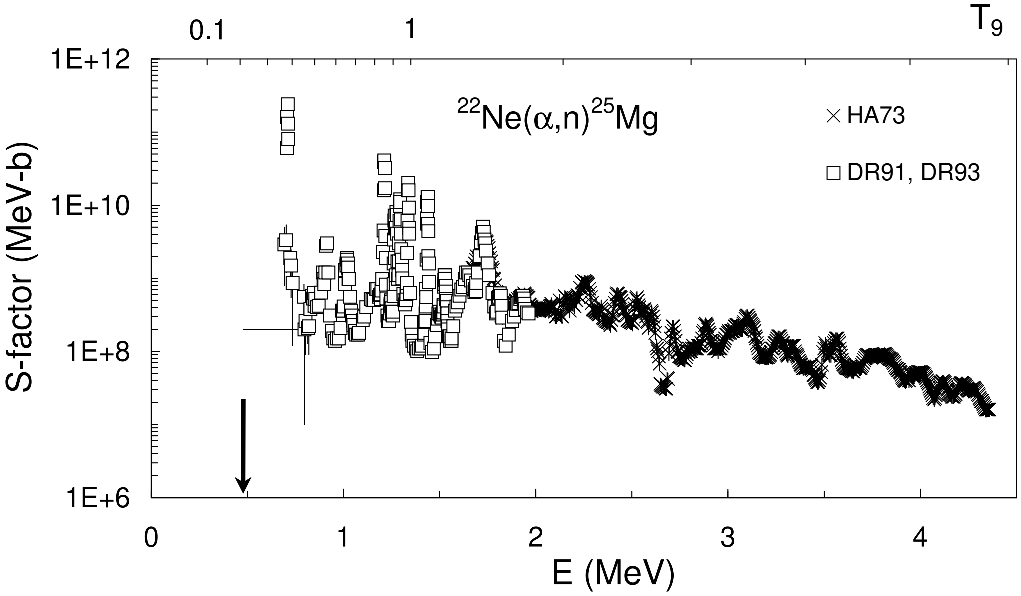
Reaction: $^{22}Ne(\alpha,n)^{25}Mg$

The rates for this endoergic reaction ($Q = -0.478$ MeV) are based on the cross section data of HA73, DR91 and DR93. The data of HA91 are not included since unexplained discrepancies exist between them and the other data. Between the threshold and 0.69 MeV, a constant S-factor $S(E) = 2 \times 10^8$ MeV b is adopted. The choise of this rather low value is motivated by the fact that only upper limits of the S-factor can be derived from the low-energy experimental data. The assumption of constancy of the S-factor takes into account in an average way the probable existence of resonances in this energy range [GI93, KÄ94]. For the lower limit of the rates, only tails from measured resonances are used. For the upper limit, the contribution from known states are considered with $\omega\gamma$ values estimated in the Wigner limit [WO89, DR93]. Above $T_9 = 2$, HF rates are used (see Sect. 2.5). In the temperature range between $T_9 = 0.1$ and 0.3, the present rates are up to a factor 10 smaller than the CA88 ones. This results from our lower extrapolation values. The enhancement of a factor 3 around $T_9 = 0.35$ is due to the resonance at $E_r = 700$ keV.



T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio
0.12	0.10	2.33	1200	-25	0.2	0.4	2.18	2.60	34.3	-8	2.9	2.5	2.03	2.55	3.07	3	0.6
0.13	0.40	8.64	5370	-24	0.2	0.45	1.90	2.27	19.8	-7	2.4	3	1.01	1.28	1.55	4	0.6
0.14	0.11	1.96	1440	-22	0.2	0.5	1.12	1.33	8.26	-6	1.9	3.5	3.46	4.44	5.42	4	0.6
0.15	0.26	3.03	2550	-21	0.2	0.6	2.10	2.45	7.97	-5	1.3	4	0.94	1.22	1.50	5	0.5
0.16	0.48	3.51	3200	-20	0.1	0.7	2.67	3.04	5.60	-4	1.1	5	4.30	5.70	7.11	5	0.6
0.17	0.75	3.31	3010	-19	0.1	0.8	2.39	2.69	3.63	-3	1.2	6	1.28	1.74	2.20	6	0.6
0.18	0.91	2.68	2220	-18	0.1	0.9	1.50	1.68	2.00	-2	1.2	7	2.88	4.02	5.16	6	0.6
0.19	0.89	1.92	1330	-17	0.2	1	6.99	7.81	8.91	-2	1.2	8	5.37	7.69	10.0	6	0.6
0.2	0.70	1.23	670	-16	0.2	1.25	1.33	1.50	1.68	0	1.0	9	0.88	1.29	1.70	7	0.6
0.25	1.82	2.30	314	-13	1.0	1.5	1.12	1.30	1.48	1	0.9	10	1.29	1.96	2.63	7	0.6
0.3	3.37	4.06	192	-11	2.2	1.75	5.87	7.04	8.21	1	0.8						
0.35	1.37	1.64	36.8	-9	2.9	2	2.22	2.76	3.30	2	0.7						