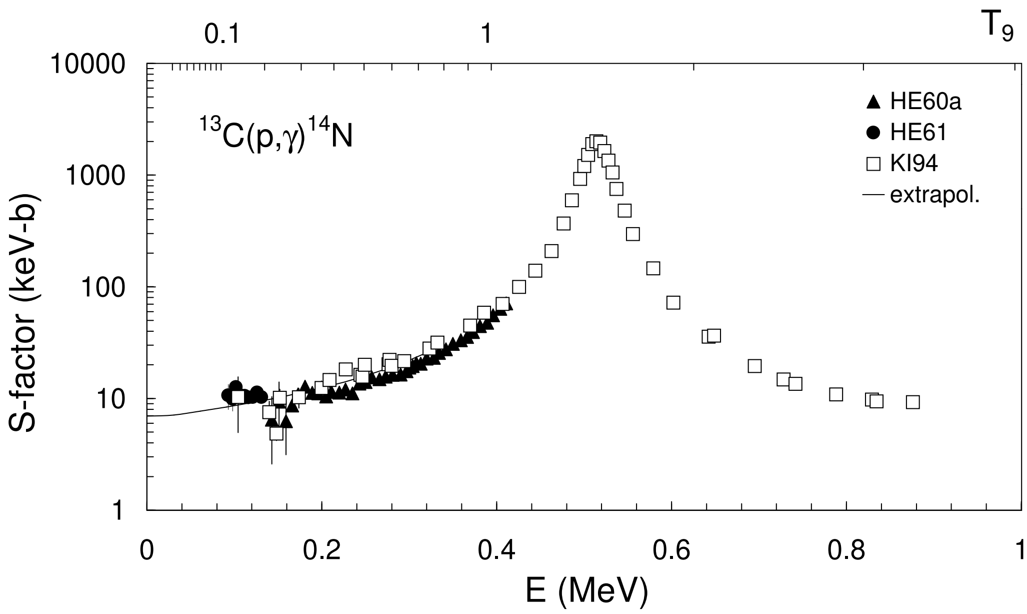
Reaction: $^{13}C(p,\gamma)^{14}N$

The experimental data from HE60a, HE61 and KI94 are adopted. Since the data of HE60a and HE61 are limited to the capture cross section to the ^{14}N ground state, a renormalization factor 1.18, suggested by the authors [HE60a, HE61, KI94], is used to obtain the total cross section. For this reaction, the S-factor has been extrapolated by using a R-matrix fit involving the 1^- ($E_r = 0.511$ MeV) resonance and a background contribution. This procedure yields $S_0 = 7.0 \pm 1.5$ keV b. This value is consistent with the recommendation of AD98 (7.6 ± 1 keV b), who use the extrapolation of KI94. Resonance properties are taken from SE52, WO53, DE65, BI81, ZI86, PR85, and KI94. For the resonant data, a conservative error of 100% is adopted when no error is given by the authors. The 1^- resonance ($E_r = 0.511$ MeV) is the most important one. The present rates are slightly larger than the CA88 rates up to $T_9 \approx 0.5$, since the S_0 value used in CA88 (5.5 keV b) is lower than the present extrapolated value [KI94]. For $T_9 \geq 5$, the difference probably relates to the larger number of resonances included in the present rates.

E_r (MeV)	J^π	$\omega\gamma$ (eV)	Ref.		E_r (MeV)	J^π	$\omega\gamma$ (eV)	Ref.	
0.416 ± 0.005	2^-	0.020 ± 0.002	KI94	M	1.429 ± 0.003	2^+	0.13 ± 0.13	WO53	N
0.511 ± 0.001	1^-	8.8 ± 1.1	KI94	I	1.578 ± 0.001	3^+	0.03 ± 0.03	DE65	N
0.939 ± 0.002	4^-	0.01 ± 0.01	DE65	N	1.621 ± 0.001	2^+	9.1 ± 0.5	BI81	M
1.069 ± 0.002	0^+	1.3 ± 1.3	WO53	M	1.958 ± 0.003	2^-	7.0 ± 1.0	PR85	M
1.225 ± 0.007	0^-	12.8 ± 12.8	SE52	M	2.152 ± 0.004	1^+	0.11 ± 0.01	PR85	N
1.356 ± 0.003	3^-	0.67 ± 0.07	ZI86	M	2.545	$1,2^+$	0.37 ± 0.03	PR85	N
1.413 ± 0.002	5^+	0.003 ± 0.003	DE65	N	2.881 ± 0.005	2^+	22.8 ± 1.3	PR85	M



T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio
0.007	1.59	2.00	2.40	-22	1.2	0.08	7.80	9.57	11.3	-6	1.2	0.7	4.74	5.41	6.09	2	0.9
0.008	3.30	4.15	5.00	-21	1.2	0.09	2.52	3.08	3.64	-5	1.2	0.8	1.12	1.27	1.43	3	0.9
0.009	4.29	5.39	6.49	-20	1.2	0.10	6.91	8.43	9.95	-4	1.2	0.9	2.13	2.43	2.74	3	0.9
0.010	3.90	4.90	5.89	-19	1.2	0.11	1.67	2.04	2.40	-4	1.2	1	3.51	4.01	4.51	3	0.9
0.011	2.69	3.37	4.05	-18	1.2	0.12	3.66	4.45	5.23	-4	1.2	1.25	8.21	9.40	10.6	3	0.9
0.012	1.48	1.86	2.23	-17	1.2	0.13	7.40	8.95	10.5	-3	1.2	1.5	1.38	1.58	1.79	4	0.9
0.013	6.81	8.54	10.3	-17	1.2	0.14	1.40	1.69	1.98	-3	1.2	1.75	1.92	2.23	2.54	4	0.9
0.014	2.69	3.38	4.06	-16	1.2	0.15	2.49	3.00	3.51	-3	1.2	2	2.40	2.82	3.24	4	0.8
0.015	0.94	1.18	1.42	-15	1.2	0.16	4.23	5.08	5.94	-3	1.2	2.5	3.11	3.78	4.46	4	0.8
0.016	2.95	3.69	4.44	-15	1.2	0.18	1.09	1.30	1.51	-2	1.2	3	3.53	4.47	5.41	4	0.9
0.018	2.23	2.79	3.34	-14	1.2	0.2	2.47	2.93	3.40	-2	1.2	3.5	3.73	4.94	6.15	4	0.9
0.020	1.27	1.59	1.90	-13	1.2	0.25	1.31	1.54	1.77	-1	1.3	4	3.81	5.27	6.72	4	0.9
0.025	4.15	5.18	6.21	-12	1.2	0.3	5.04	5.81	6.58	-1	1.3	5	3.77	5.62	7.46	4	1.0
0.03	5.93	7.38	8.84	-11	1.2	0.35	1.75	1.96	2.17	0	1.3	6	3.64	5.74	7.84	4	1.1
0.04	2.85	3.54	4.22	-9	1.2	0.4	5.54	6.04	6.53	0	1.2	7	3.49	5.74	7.99	4	1.1
0.05	4.48	5.53	6.59	-8	1.2	0.45	1.58	1.69	1.79	1	1.1	8	3.35	5.67	7.98	4	1.2
0.06	3.65	4.50	5.36	-7	1.2	0.5	3.85	4.20	4.84	1	1.0	9	3.23	5.55	7.88	4	1.2
0.07	1.95	2.40	2.85	-6	1.2	0.6	1.64	1.82	2.00	2	0.9	10	3.12	5.42	7.72	4	1.2