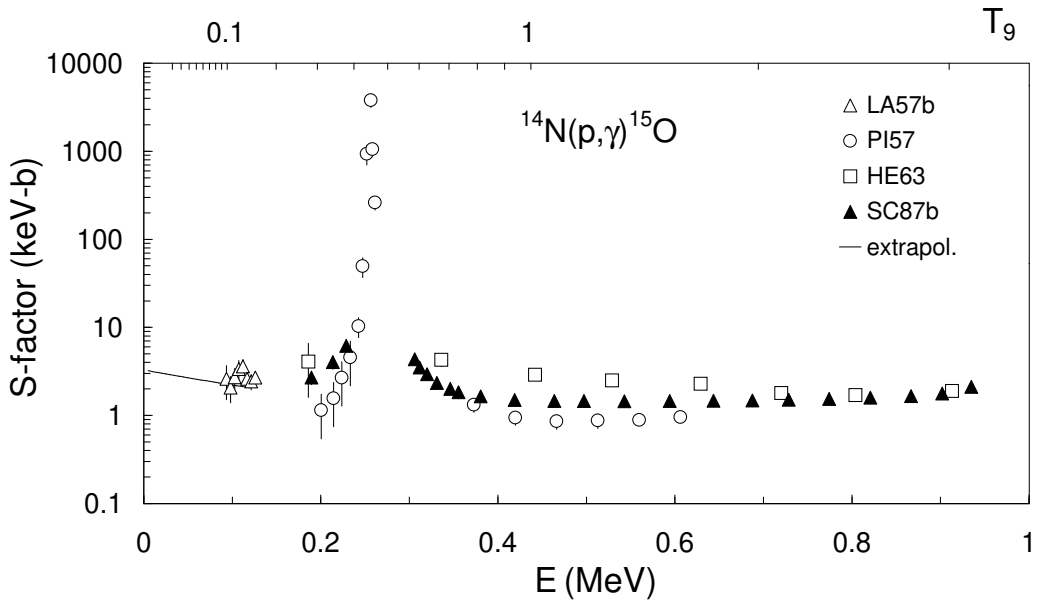
Reaction : $^{14}N(p,\gamma)^{15}O$

The experimental data from LA57b, PI57 (as cited by SC87b), HE63 and SC87b are adopted for the calculation of the non-resonant contribution to the reaction rates. For the four data sets, a systematic error is added to the statistical error given in the figures or tables (23% in LA57b, 33% in PI57, 12% in HE63, 15% in SC87b). For the extrapolation to energies below $E = 93$ keV, a subthreshold state at $E_r = -504$ keV is included. This extrapolation is in agreement with the one given in SC87b. Our recommended $S_0 = 3.2 \pm 0.8$ keV b, in agreement with the value given by AD98 within the error bars ($S_0 = 3.5^{+0.4}_{-1.6}$ keV b). The resonant data include 13 resonances. The strengths of the resonances between $E_r = 2185 \pm 7$ keV and $E_r = 4272 \pm 14$ keV are the reported values of DU51, PH72, KU77 and SC87b. The $1/2^+$ resonance ($E_r = 259.4 \pm 0.4$ keV) dominates the reaction rates at $T_9 \leq 1$. All resonance tails have a negligible contribution to the total reaction rates. Good agreement with the CA88 rates is obtained.

E_r (MeV)	J^π	$\omega\gamma$ (eV)						
		DU51	BA55c	HA57a	HE63	SC87b	adopt	
0.2594 ± 0.0004	$1/2^+$	0.020±0.004	0.013±0.003		0.014±0.003	0.014±0.001	0.014±0.001	I
0.983 ± 0.002	$3/2^+$	0.63±0.13		0.39±0.13	0.39±0.08	0.31±0.04	0.35±0.05	M
1.440 ± 0.006	$1/2^+$	0.16±0.06		0.11±0.02		0.093±0.020	0.104±0.014	M
1.623 ± 0.002*	$1/2^+$	0.21±0.06		0.76±0.19			0.26±0.16	M
1.684 ± 0.005	$(3/2)^-$	0.52±0.11		0.30±0.07			0.36±0.10	M
Res. 2.185 – 4.272 MeV		see comments						

*A $1/2^+$ and $5/2^+$ doublet separated by 0.5±0.5 keV



T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio
0.008	0.74	1.03	1.32	-24	1.0	0.09	2.71	3.70	4.69	-7	1.0	0.8	7.09	7.68	8.27	1	1.0
0.009	1.28	1.78	2.29	-23	1.0	0.1	0.82	1.11	1.40	-6	1.0	0.9	9.04	9.79	10.5	1	1.0
0.01	1.49	2.08	2.67	-22	1.0	0.11	2.18	2.95	3.71	-6	1.0	1	1.08	1.17	1.26	2	1.0
0.011	1.27	1.77	2.28	-21	1.0	0.12	5.56	7.37	9.19	-6	1.0	1.25	1.45	1.57	1.69	2	0.9
0.012	0.85	1.18	1.52	-20	1.0	0.13	1.44	1.85	2.27	-5	1.0	1.5	1.74	1.89	2.05	2	0.9
0.013	4.62	6.44	8.27	-20	1.0	0.14	3.93	4.85	5.78	-5	1.0	1.75	2.02	2.22	2.42	2	0.9
0.014	2.13	2.97	3.81	-19	1.0	0.15	1.09	1.30	1.51	-4	1.0	2	2.35	2.61	2.88	2	0.9
0.015	0.85	1.19	1.53	-18	1.0	0.16	2.92	3.40	3.88	-4	1.0	2.5	3.23	3.70	4.19	2	0.8
0.016	3.04	4.24	5.43	-18	1.0	0.18	1.71	1.93	2.16	-3	1.0	3	4.54	5.39	6.27	2	0.7
0.018	2.87	4.00	5.12	-17	1.0	0.2	7.41	8.26	9.14	-3	1.0	3.5	6.38	7.84	9.33	2	0.7
0.02	1.98	2.76	3.53	-16	1.0	0.25	1.04	1.14	1.25	-1	1.0	4	0.88	1.11	1.34	3	0.7
0.025	0.95	1.31	1.68	-14	1.0	0.3	5.84	6.40	6.98	-1	1.0	5	1.52	1.97	2.43	3	0.8
0.03	1.79	2.48	3.18	-13	1.0	0.35	1.94	2.12	2.31	0	1.0	6	2.27	2.99	3.71	3	0.9
0.04	1.29	1.78	2.28	-11	1.0	0.4	4.67	5.09	5.53	0	1.0	7	3.06	4.03	5.03	3	1.0
0.05	2.67	3.68	4.69	-10	1.0	0.45	9.04	9.85	10.7	0	1.0	8	3.80	5.02	6.26	3	1.1
0.06	2.67	3.68	4.68	-9	1.0	0.5	1.51	1.64	1.78	1	1.0	9	4.46	5.90	7.36	3	1.1
0.07	1.67	2.30	2.92	-8	1.0	0.6	3.14	3.42	3.70	1	1.0	10	5.03	6.65	8.29	3	1.1
0.08	0.76	1.04	1.32	-7	1.0	0.7	5.05	5.48	5.91	1	1.0						