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Using the combination method to determine the rate constants of the reaction of H atom abstraction from hydrocarbons by the aminyl radical NH_2

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Table S1 Kinetic parameters A, n and E_a from the NIST database for calculating the rate constants of reactions of the $^{\bullet}NH_2$ radical with NH_3 and alkanes using the equation $k(T) = A(T/298\ K)^n e^{-Ea/RT}$, absolute values of k (in $dm^3\ mol^{-1}\ s^{-1}$) at 298 K and their logarithms.

Entry	T/K	$A \times 10^{13}$/cm^3 $molecule^{-1}\ s^{-1}$	n	E_a/ kJ mol^{-1}	k (298 K)/ $dm^3\ mol^{-1}\ s^{-1}$	Log(k/ $dm^3\ mol^{-1}\ s^{-1}$)	Ref.
			$^{\bullet}NH_2 + NH_3 \rightarrow NH_3 + {}^{\bullet}NH_2$				
1	300–1000	0.0649	3.28	38.5	0.697	−0.16	S1
2	490–510	6.31	0	61.9	6.36×10^{-3}	−2.19	S2
			$^{\bullet}NH_2 + MeH \rightarrow NH_3 + {}^{\bullet}Me$				
3	300–2000	0.0877	3.0	17.7	4.12×10^3	3.61	S3
4	300–2000	78.0	0	38.9	712.7	2.85	S3
5	1591–2084	1170	0	71.3	0.022	−1.65	S4
6	1500–2100	199	0	63.4	0.092	−1.03	S5
7	743–1020	96.1	0	55.1	1.27	0.1	S6
8	300–520	8.30	0	43.9	10.1	1.0	S7
9	300–2000	575	0	57.8	2.55	0.40	S8
10	300–2100	0.684	3.01	41.6	2.10	0.32	S9
11	300–5000	2.86	2.87	44.7	2.51	0.39	S1
12	300–2000	0.390	3.59	37.7	5.78	0.76	S9
13	300–2100	0.370	3.33	52.0	0.017	−1.76	S10
14	690–710	38.0	0	59.8	0.075	−1.12	S2
			$^{\bullet}NH_2 + EtH \rightarrow NH_3 + {}^{\bullet}Et$				
15	1500–2100	161	0	48.0	37.4	1.57	S5
16	598–973	161	0	44.4	159.8	2.20	S11
17	300–520	6.14	0	29.9	2.10×10^3	3.32	S7
18	295–500	6.14	0	29.9	2.10×10^3	3.32	S12
19	300–2000	175	0	44.0	204.1	2.31	S8
20	300–2000	0.274	3.46	23.4	1.30×10^3	3.11	S9
			$^{\bullet}NH_2 + PrH \rightarrow NH_3 + {}^{\bullet}Pr$				
21	500–2200	0.0627	3.98	18.6	2.07×10^3	3.31	S13
22	300–2000	227	0	42.0	593.5	2.77	S8
23	300–2000	0.291	3.49	26.4	412.9	2.62	S9
			$^{\bullet}NH_2 + PrH \rightarrow NH_3 + {}^{\bullet}Pr^{i}$				
24	500–2200	0.0978	3.77	15.0	1.38×10^4	4.14	S13
25	300–2000	245	0	35.7	8.10×10^3	3.91	S8
26	300–2000	0.267	3.29	18.5	9.19×10^3	3.96	S9
			$^{\bullet}NH_2 + BuH \rightarrow NH_3 + {}^{\bullet}Bu$				
27	500–2200	0.118	3.88	17.5	6.10	3.78	S13
28	300–2000	351	0	41.3	1.20×10^3	3.08	S8
			$^{\bullet}NH_2 + BuH \rightarrow NH_3 + {}^{\bullet}Bu^{s}$				
29	500–2200	0.296	3.37	12.8	1.01×10^5	5.00	S13
30	300–2000	286		32.5	3.45×10^4	4.53	S8
			$^{\bullet}NH_2 + Bu^{t}H \rightarrow NH_3 + {}^{\bullet}Bu^{t}$				
31	300–2000	224	0	27.0	2.49×10^5	5.39	S8
32	300–2000	0.342	3.16	15.9	3.27×10^5	4.15	S9
			$^{\bullet}NH_2 + MePh \rightarrow NH_3 + {}^{\bullet}CH_2Ph$				
33	500–2200	0.297	4.21	17.5	1.53×10^4	4.18	S13

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