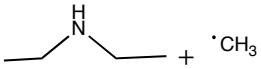
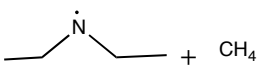
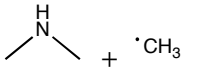
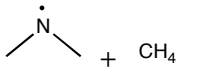
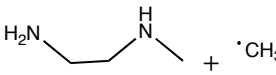
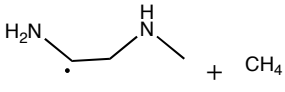
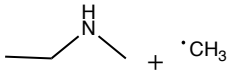
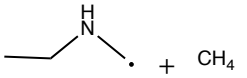
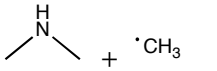
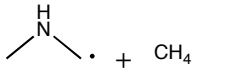
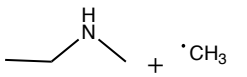
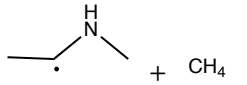
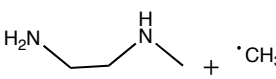
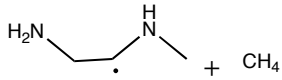
Table 1: CBS-QB3 Energies

	reactants	⇌	products	ΔE_{rxn} (kcal/mol)	barrier (kcal/mol)	
23	HOO· + HOO·	⇌	HOOH + O_2	−38.5	—	

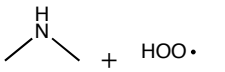
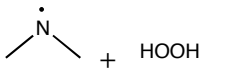
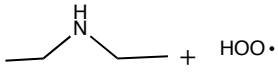
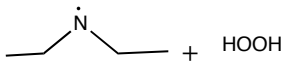
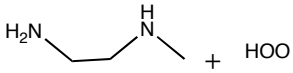
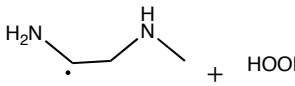
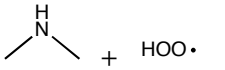
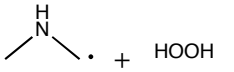
That was a test. According to 10.1021/jp066823d it has a ZPVE-corrected CASPT2/6-311+G(3df,2p) total energy change of -39.5 kcal/mol

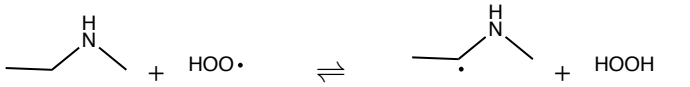
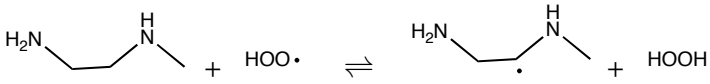
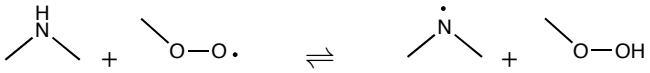
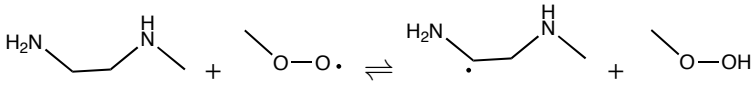
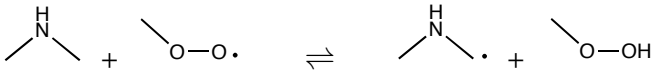
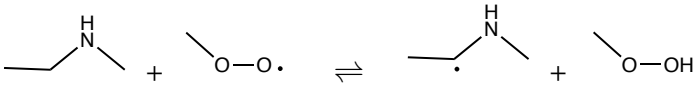
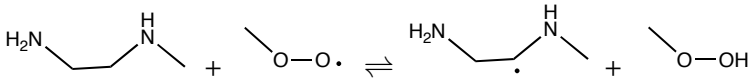
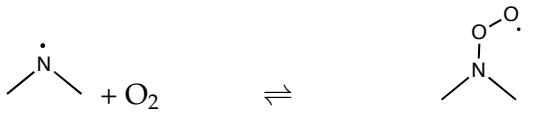
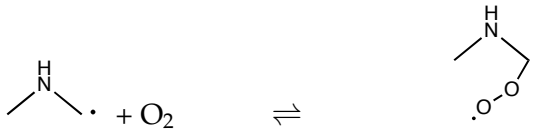
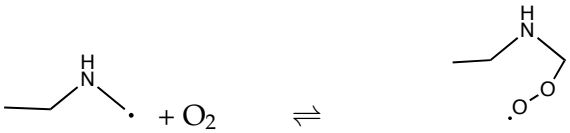
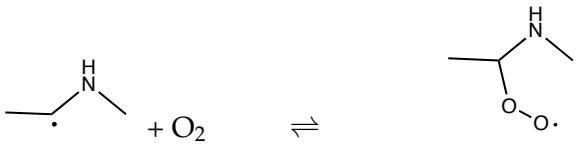
Grouped the new way

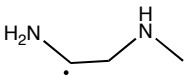
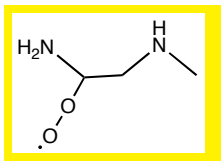
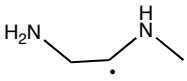
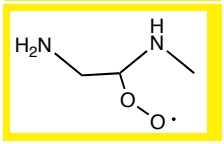
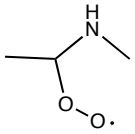
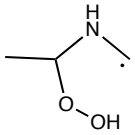
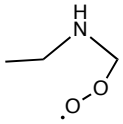
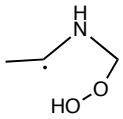
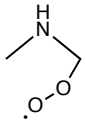
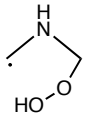
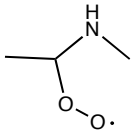
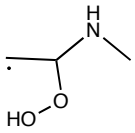
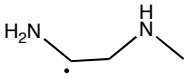
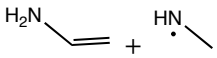
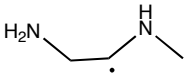
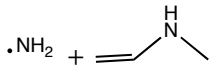
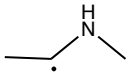
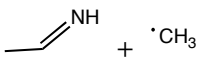
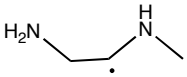
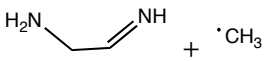
Making radical from ·CH_3

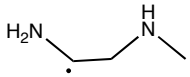
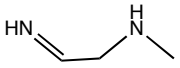
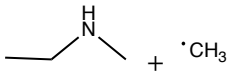
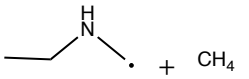
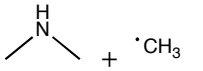
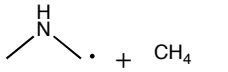
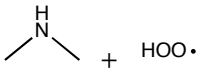
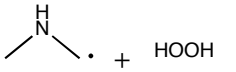
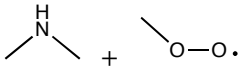
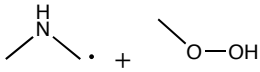
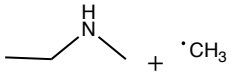
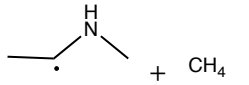
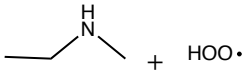
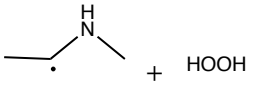
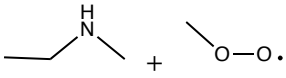
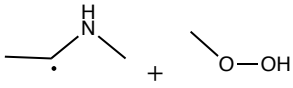
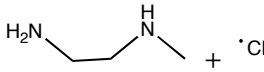
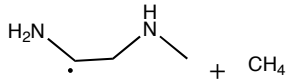
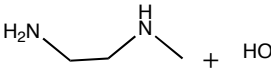
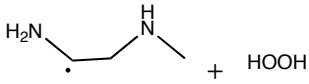
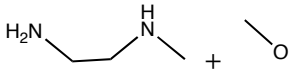
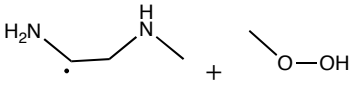
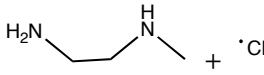
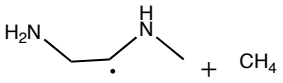
24		⇌		−11.1	—	
12		⇌		−11.2	8.1	8.1
25		⇌		−11.6	—	
3		⇌		−12.3	10.1	10.1
11		⇌		−12.4	10.2	10.2
4		⇌		−13.5	8.4	8.4
26		⇌		−14.4	—	

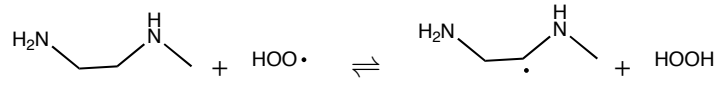
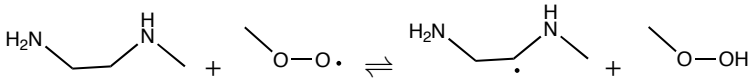
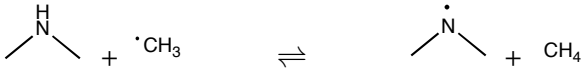
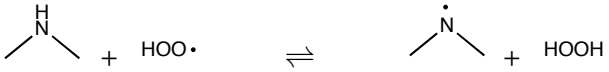
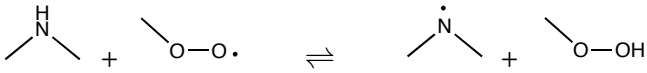
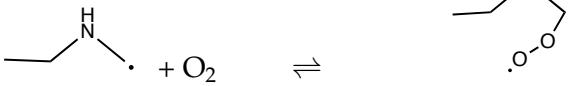
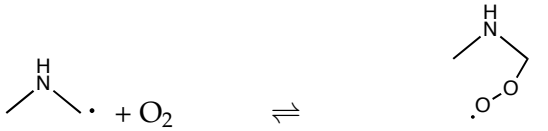
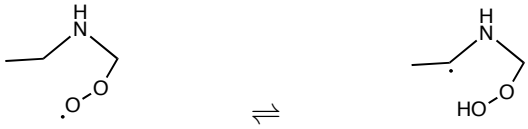
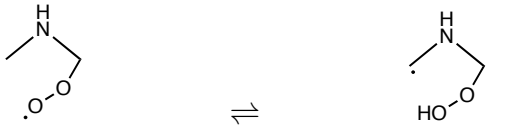
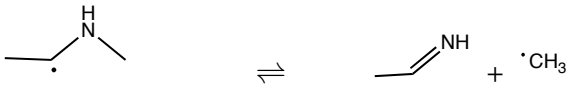
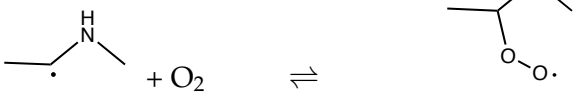
Making radical from HOO·

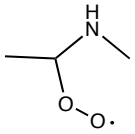
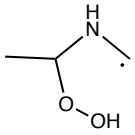
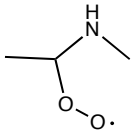
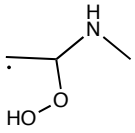
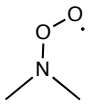
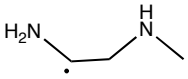
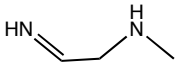
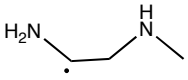
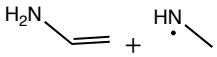
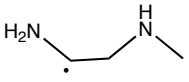
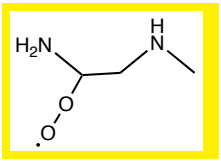
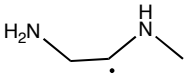
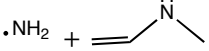
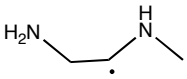
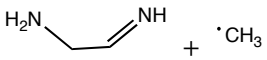
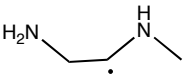
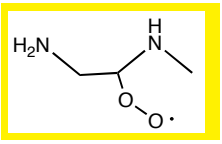
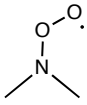
16		⇌		6.1	9.0	2.9
1		⇌		6.2	7.0	0.8
27		⇌		5.7	—	
15		⇌		4.8	7.6	2.7

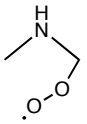
CBS-QB3 Energies (kcal/mol)		ΔE_{rxn}	barrier	
6		3.7	5.7	2.0
28		2.8	—	
Making radical from $CH_3OO\cdot$				
14		7.6	9.7	2.1
29		7.2	—	
13		6.3	8.2	1.8
5		5.2	6.4	1.1
30		4.3	—	
O_2 addition to radical				
31		−6.9	—	
32		−31.8	—	
33		−32.0	—	
34		−32.4	—	

CBS-QB3 Energies (kcal/mol)				ΔE_{rxn}	barrier	
35		$+ O_2$	⇌		—	—
36		$+ O_2$	⇌		—	—
Intramolecular H-abstraction						
9			⇌		5.0	13.2	8.2
2			⇌		7.3	14.1	6.8
10			⇌		8.4	15.9	7.5
8			⇌		18.5	32.5	14.0
β-scission of a radical						
20			⇌		17.9	21.8	3.9
18			⇌		24.0	26.0	2.0
7			⇌		16.1	28.1	11.9
17			⇌		18.0	29.9	11.9

CBS-QB3 Energies (kcal/mol)				ΔE_{rxn}	barrier	
19		⇌	HJ + 	34.7	37.5	2.8
Grouped by radical type						
Making C1 radical						
3		⇌		−12.3	10.1	10.1
11		⇌		−12.4	10.2	10.2
15		⇌		4.8	7.6	2.7
13		⇌		6.3	8.2	1.8
Making C2 radical						
4		⇌		−13.5	8.4	8.4
6		⇌		3.7	5.7	2.0
5		⇌		5.2	6.4	1.1
Making C(N1) radical						
25		⇌		−11.6	—	
27		⇌		5.7	—	
29		⇌		7.2	—	
Making C(N2) radical						
26		⇌		−14.4	—	

CBS-QB3 Energies (kcal/mol)		ΔE_{rxn}	barrier	
28		2.8	—	
30		4.3	—	
Making N radical				
12		−11.2	8.1	8.1
16		6.1	9.0	2.9
14		7.6	9.7	2.1
C1 radical reacting				
33		−32.0	—	
32		−31.8	—	
2		7.3	14.1	6.8
10		8.4	15.9	7.5
C2 radical reacting				
7		16.1	28.1	11.9
34		−32.4	—	

CBS-QB3 Energies (kcal/mol)				ΔE_{rxn}	barrier	
9		⇌		5.0	13.2	8.2
8		⇌		18.5	32.5	14.0
N radical reacting						
31	 + O_2	⇌		−6.9	—	
C(N1) radical reacting						
19		⇌	HJ + 	34.7	37.5	2.8
20		⇌		17.9	21.8	3.9
35	 + O_2	⇌		—	—	
C(N2) radical reacting						
18		⇌		24.0	26.0	2.0
17		⇌		18.0	29.9	11.9
36	 + O_2	⇌		—	—	
These are mistakes I might have made earlier:						
37	 + + O_2singlet	⇌	 + 	−46.7	—	

CBS-QB3 Energies (kcal/mol)		ΔE_{rxn}	barrier
38	 + $^{\cdot}CH_3$ + O_2singlet $\rightleftharpoons$  + CH_4	-73.0	—