

C Schwingungsbilder

C.1 Normalschwingungen des Benzols

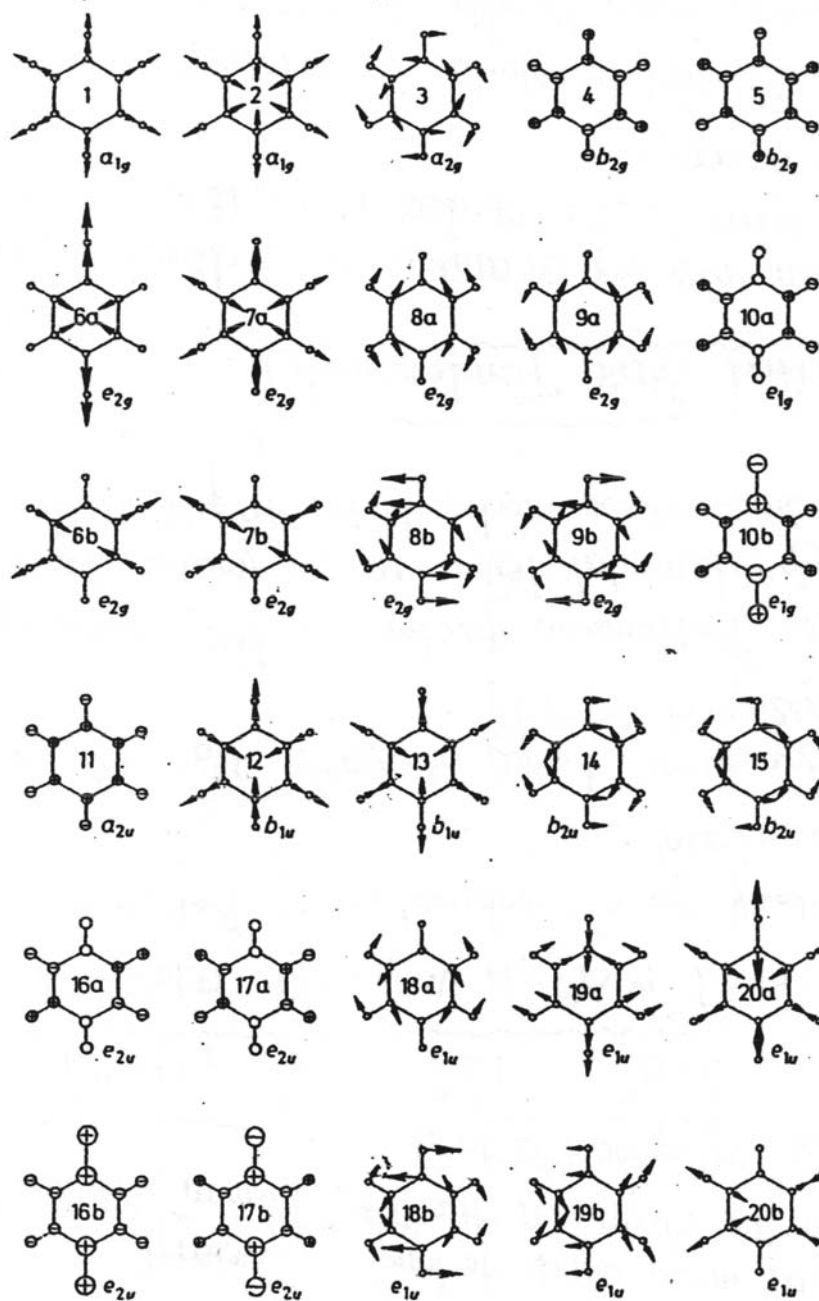
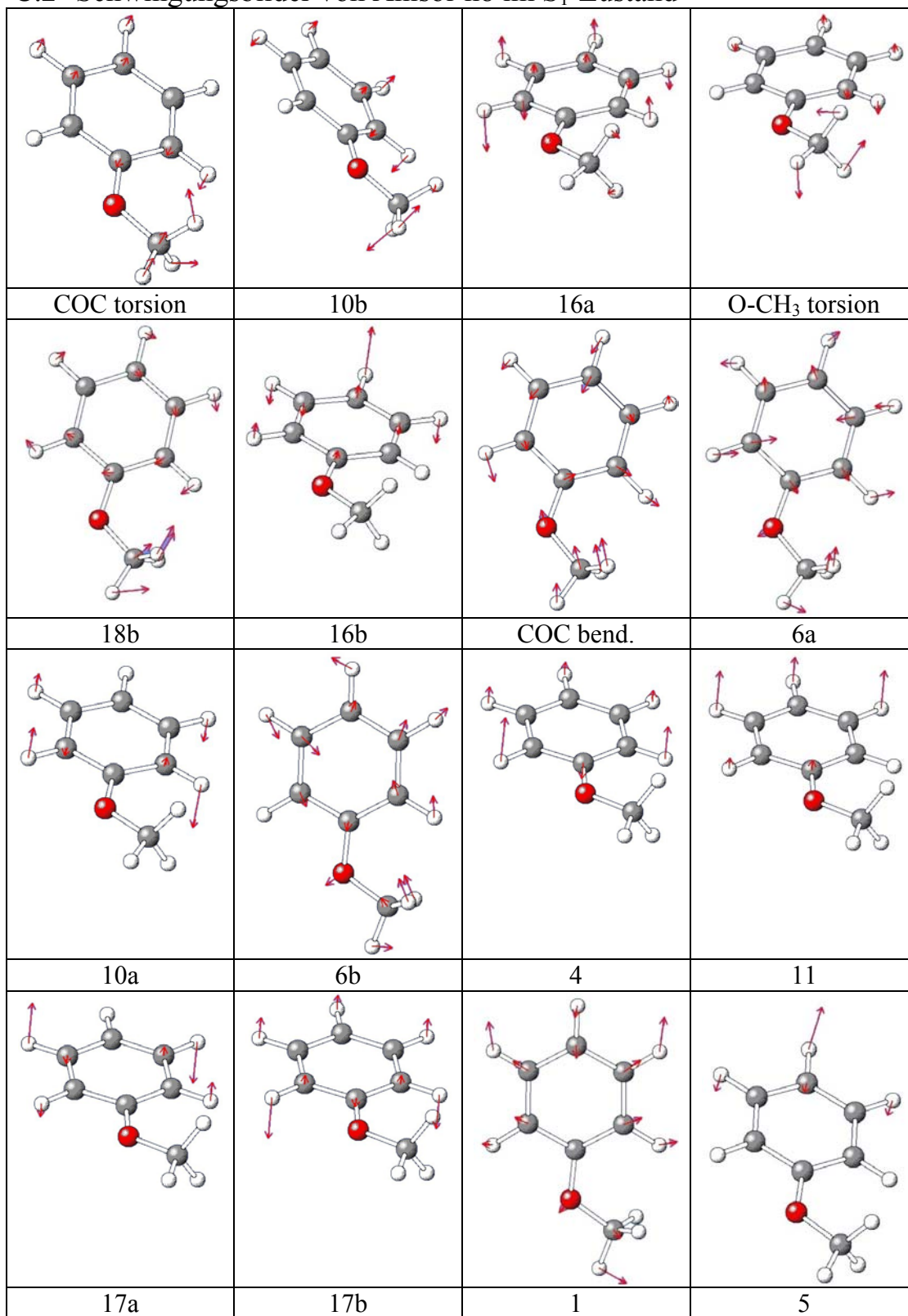
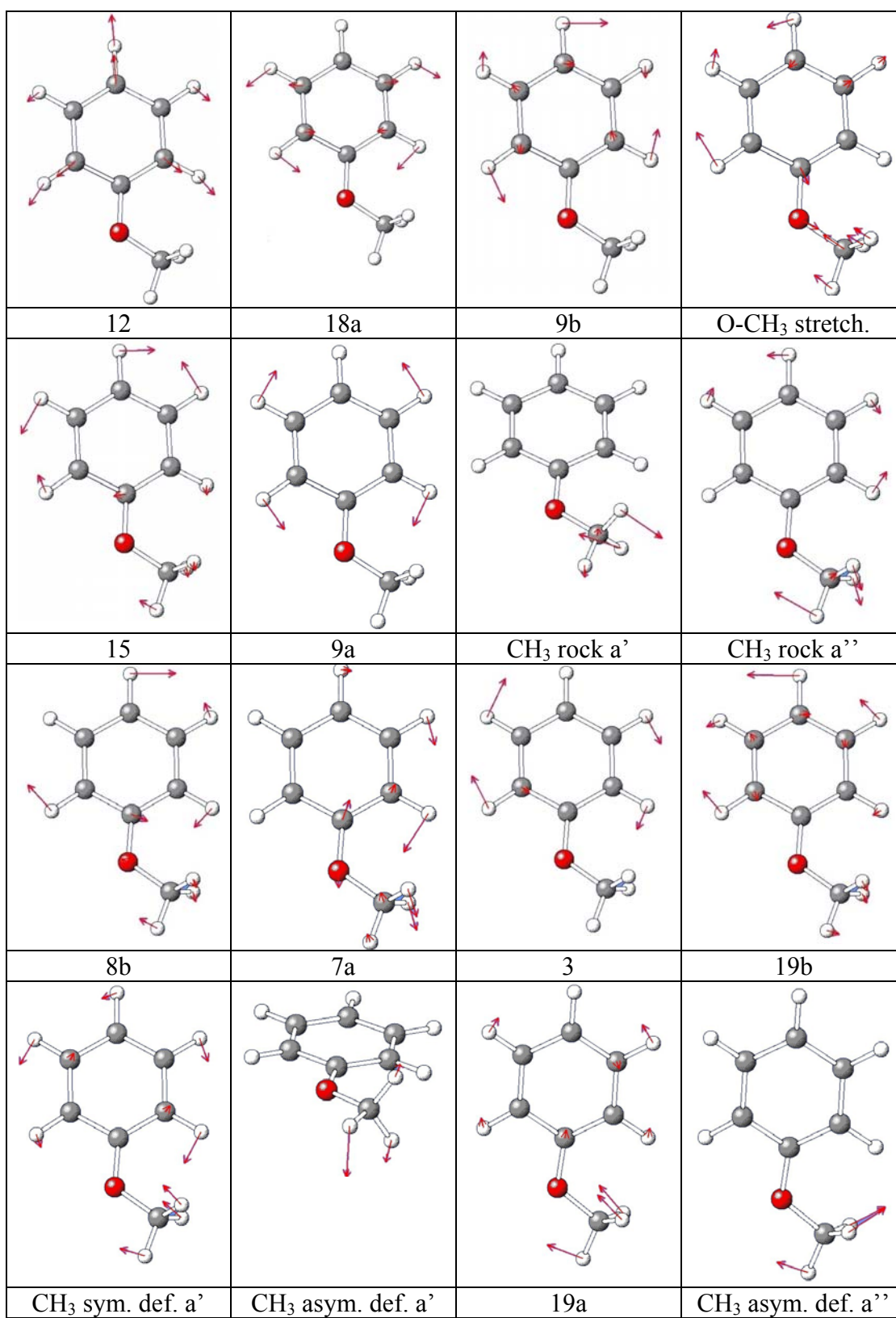
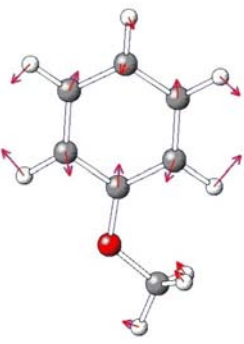
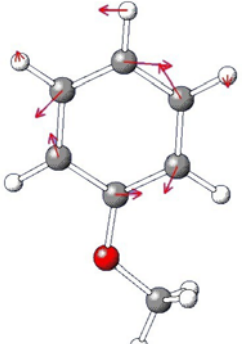
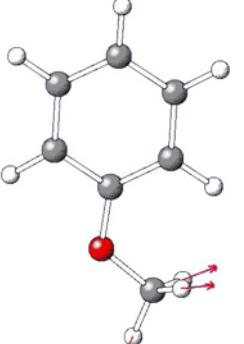
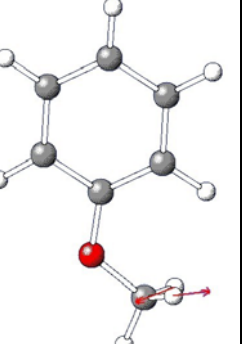
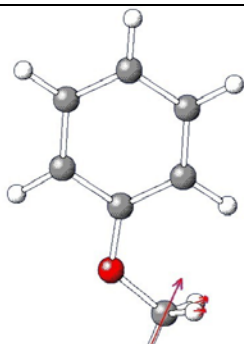
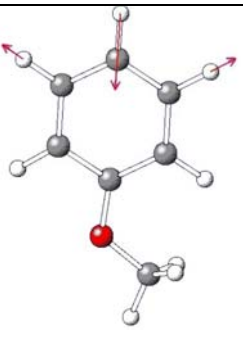
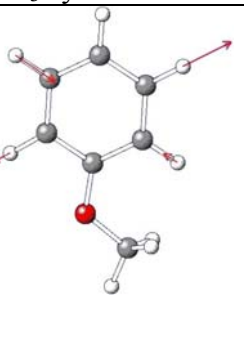
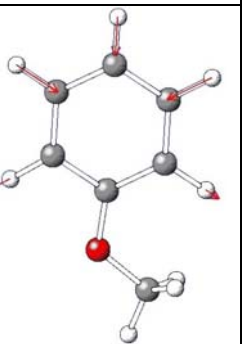
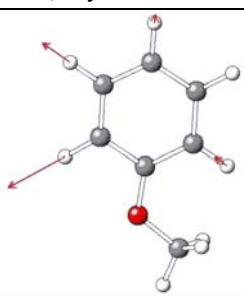
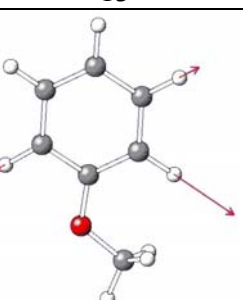
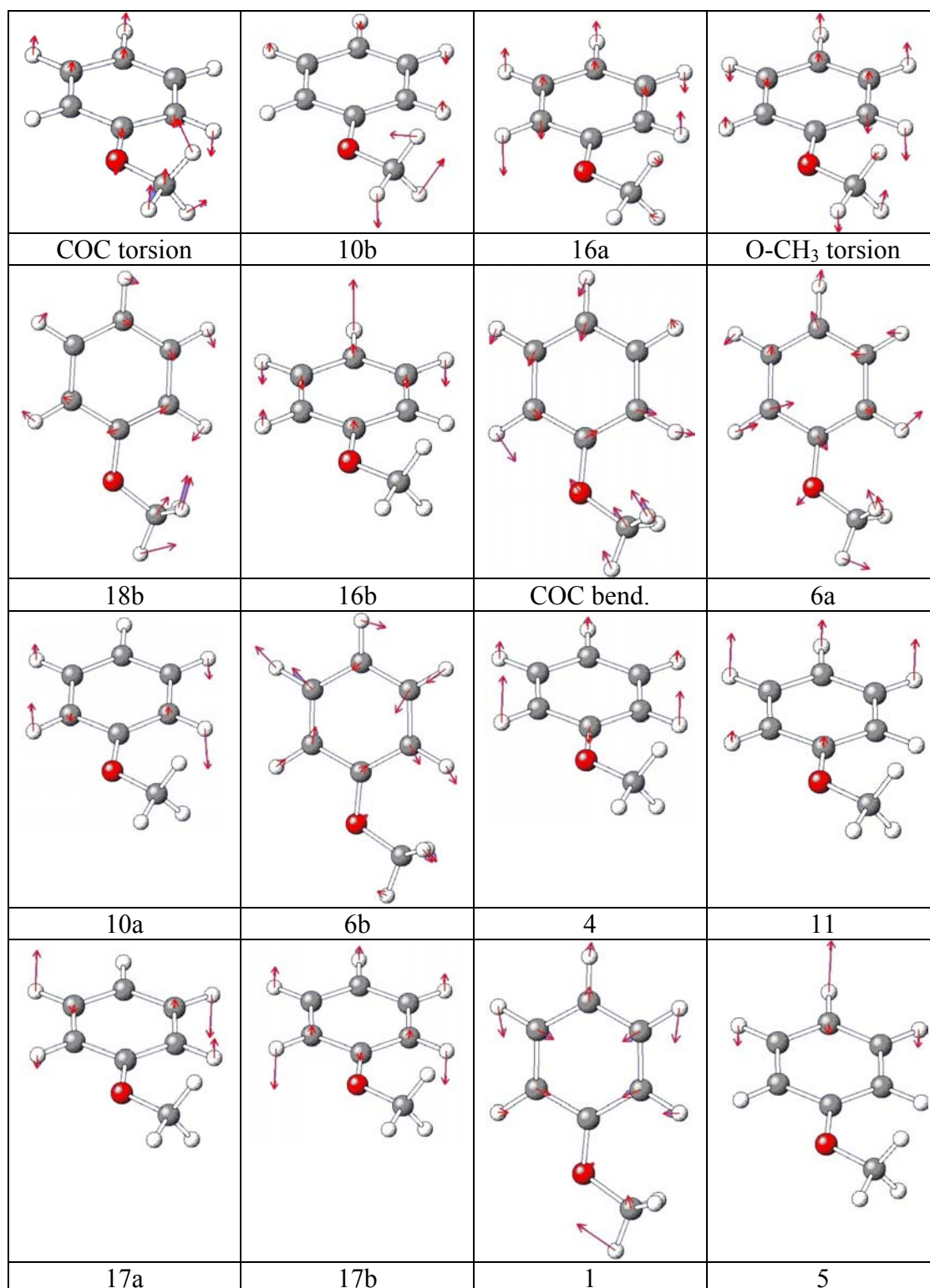


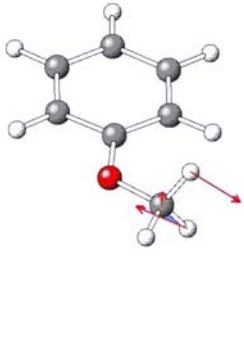
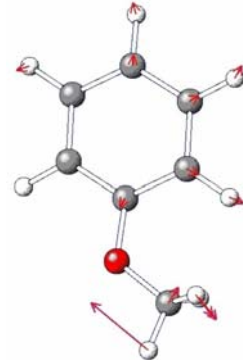
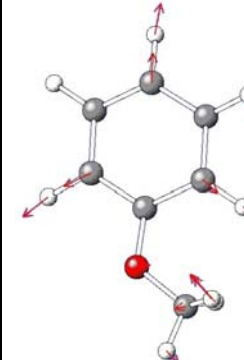
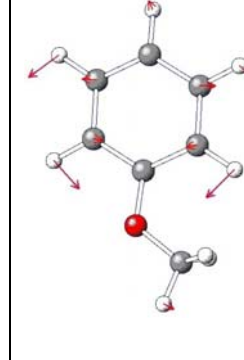
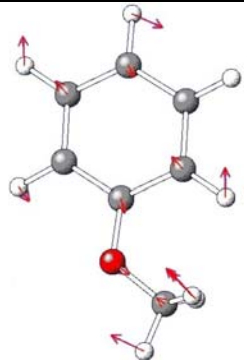
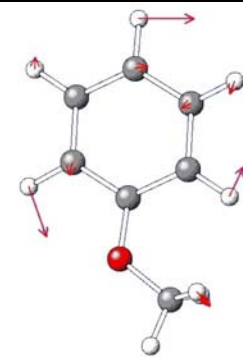
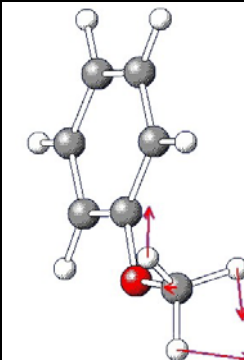
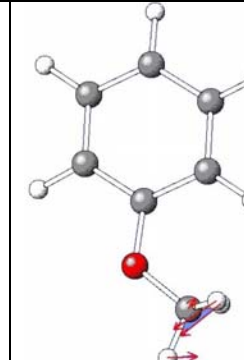
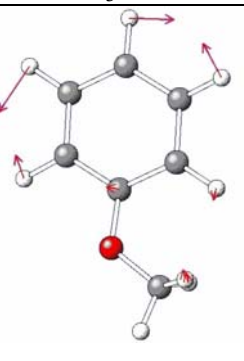
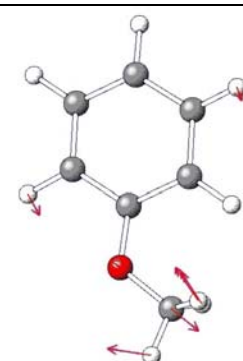
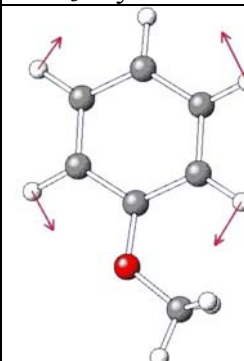
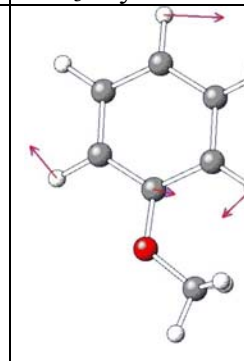
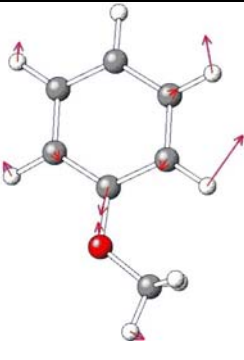

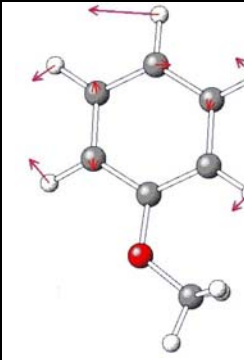
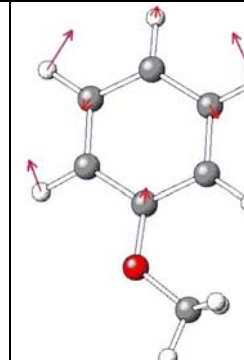
Abbildung 8-1: Schwingungsbilder der Normalmoden von Benzol

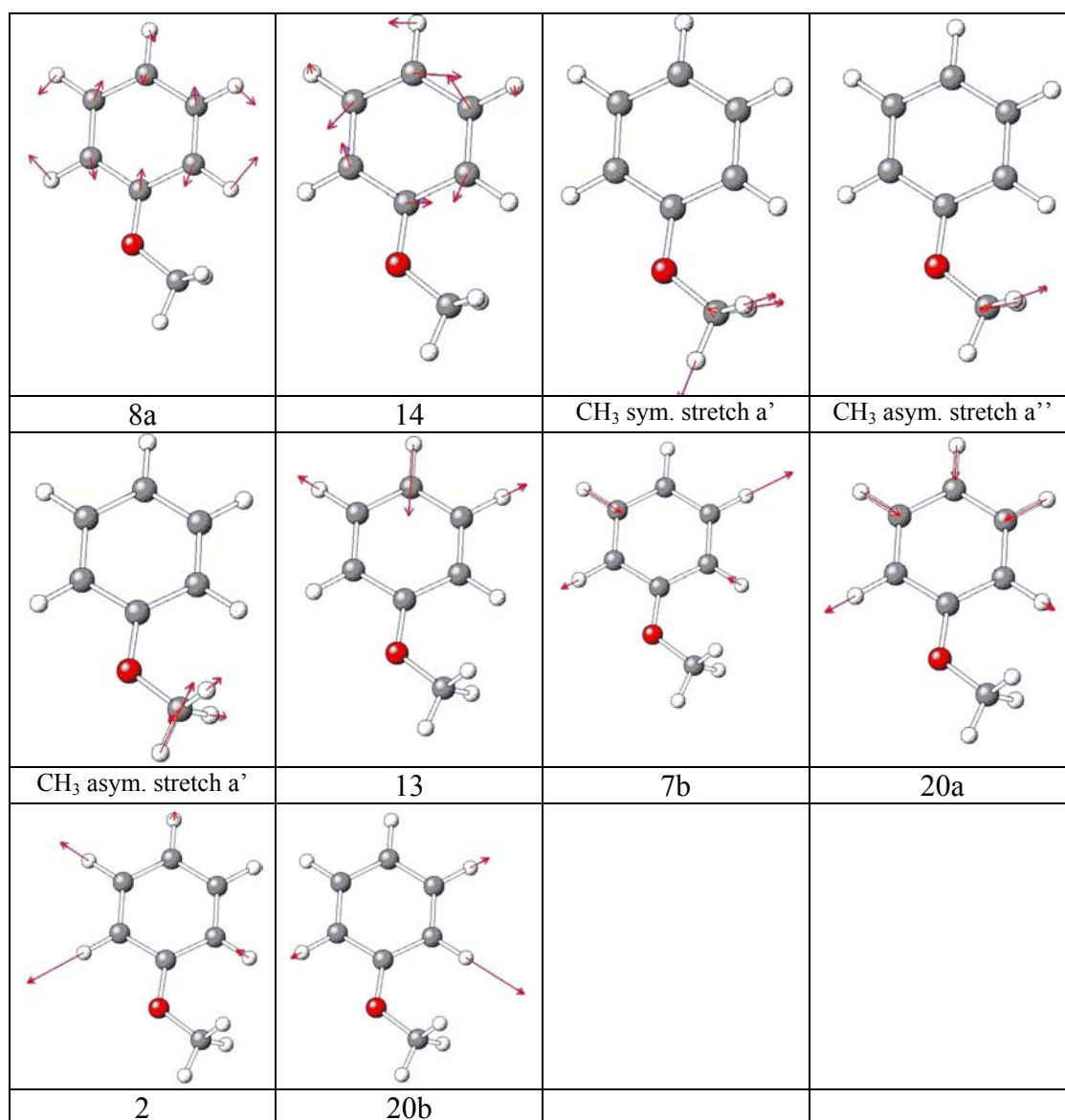
C.2 Schwingungsbilder von Anisol-h8 im S_1 -Zustand



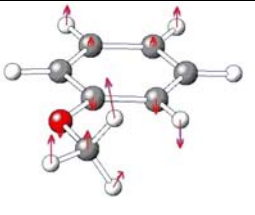
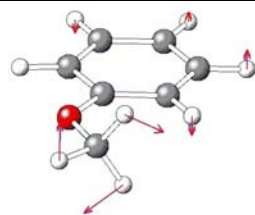
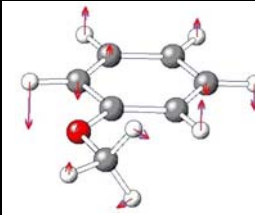
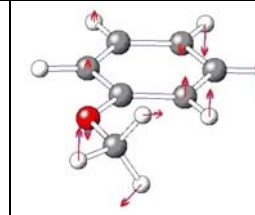
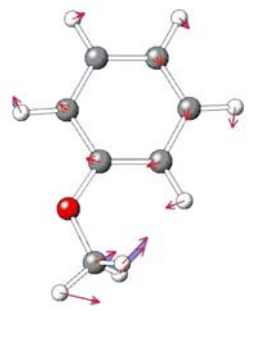
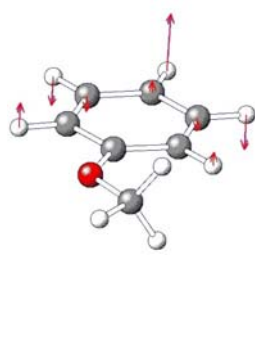
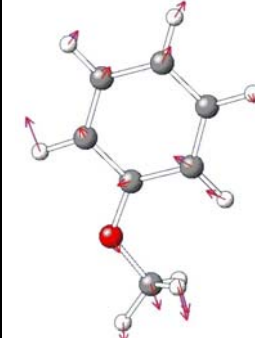
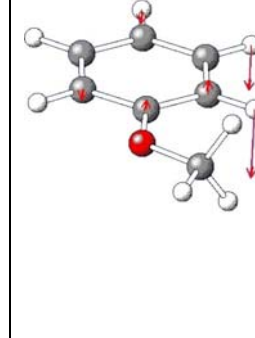
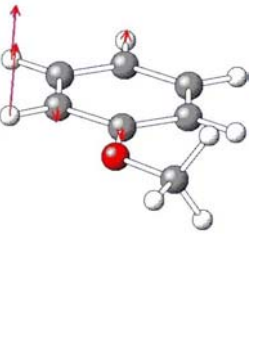
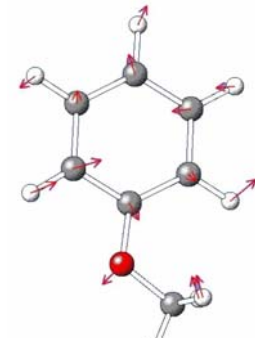
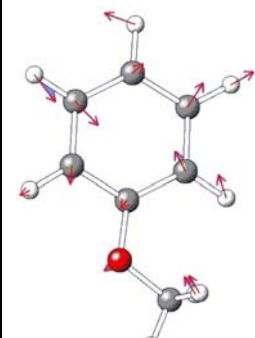
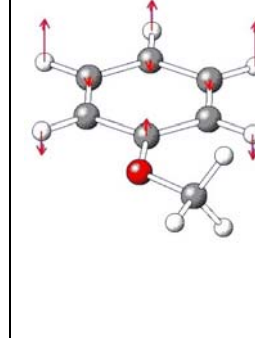
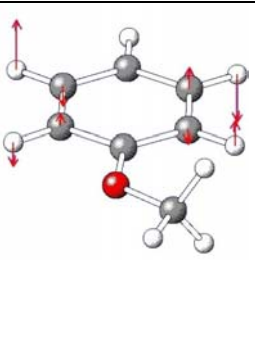
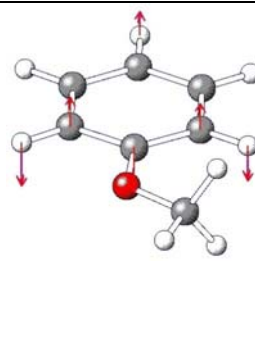
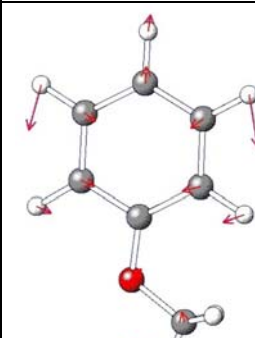
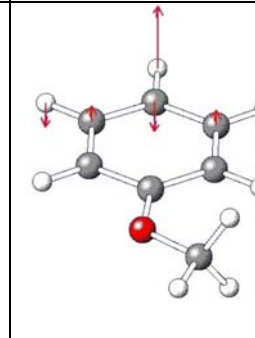
			
8a	14	CH ₃ sym. stretch a'	CH ₃ asym. stretch a''
			
CH ₃ asym. stretch a'	13	7b	20a
			
2	20b		

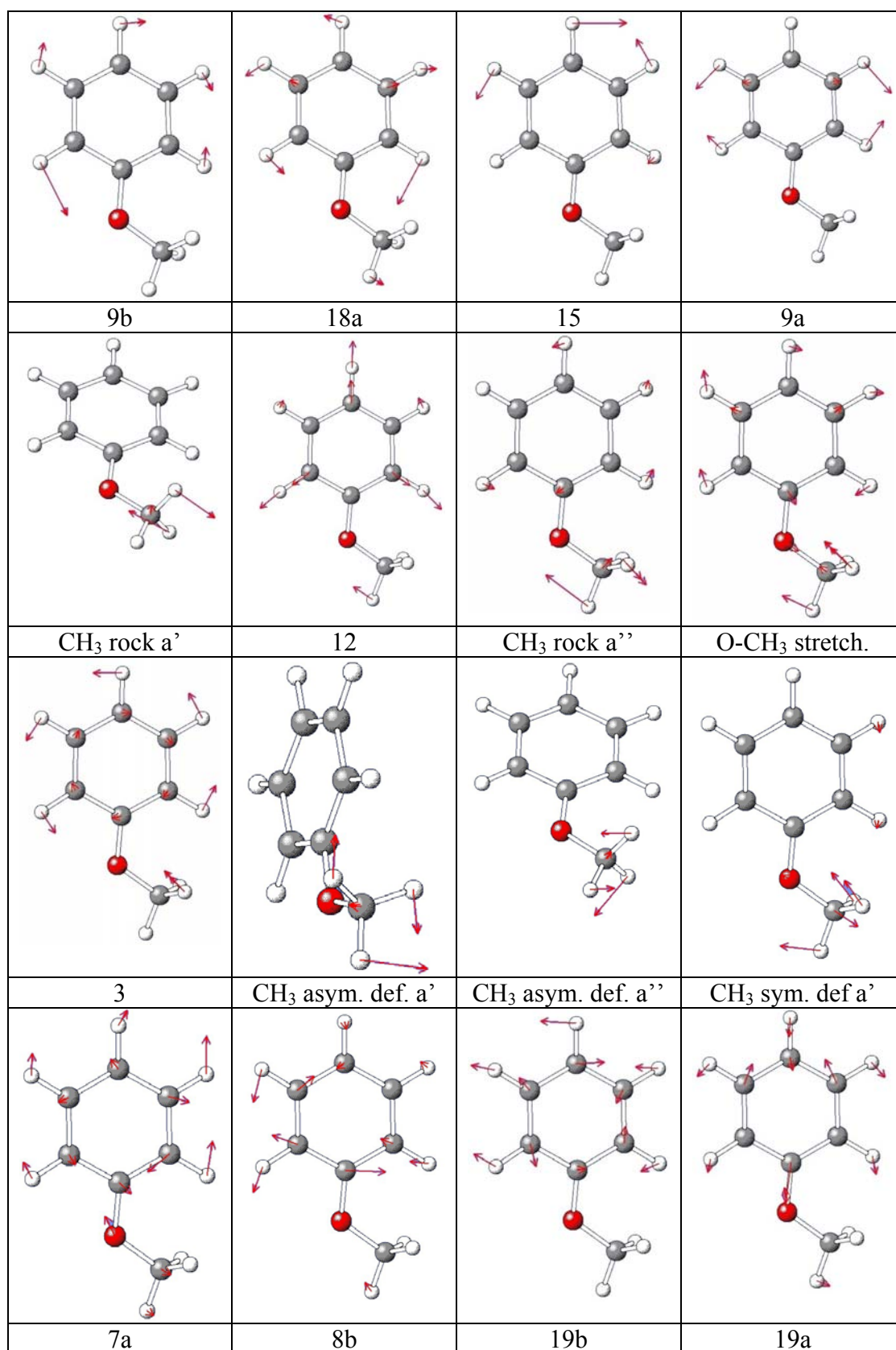
C.3 Schwingungsbilder von Anisol-d3 im S₁-Zustand

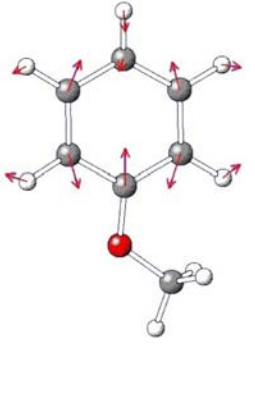
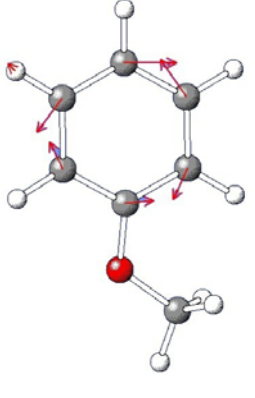
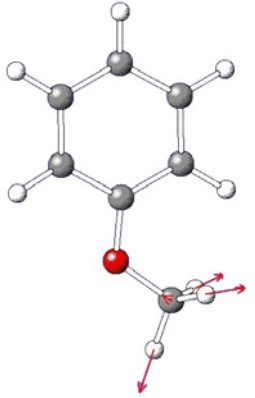
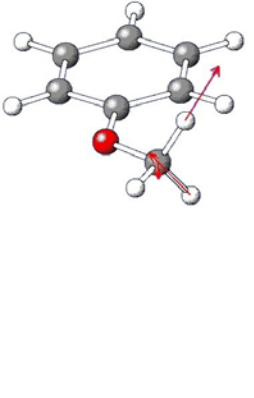
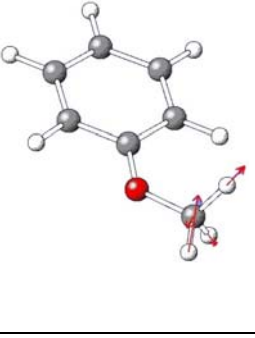
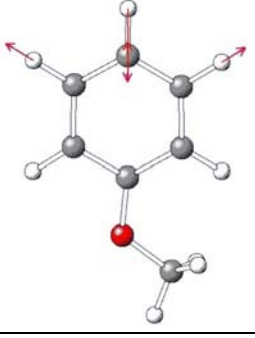
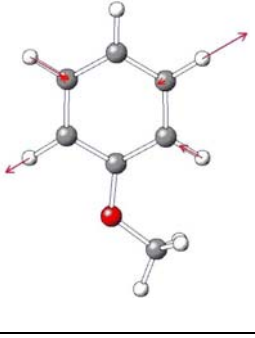
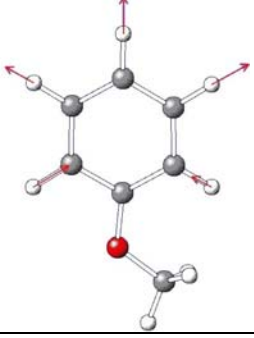
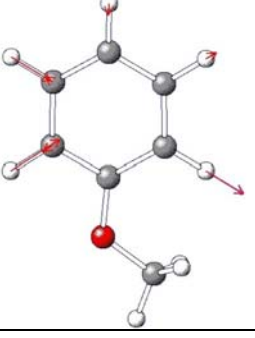
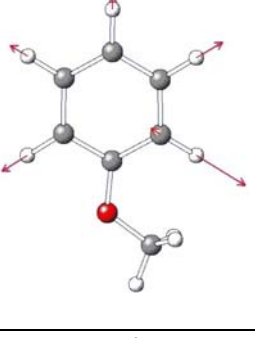
			
CH ₃ rock a'	CH ₃ rock a''	12	18a
			
O-CH ₃ stretch.	9b	CH ₃ asym. def. a'	CH ₃ asym. def. a''
			
15	CH ₃ sym. def. a'	9a	8b
			
7a	3	19b	19a



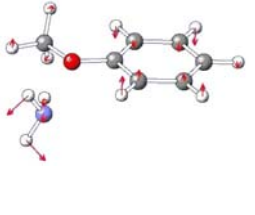
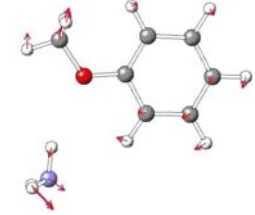
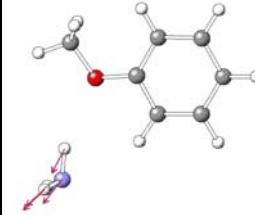
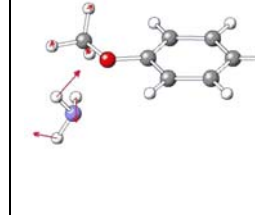
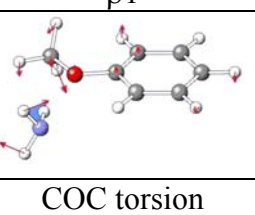
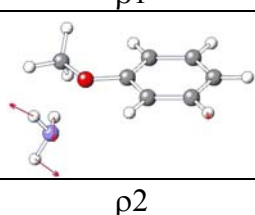
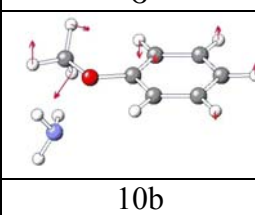
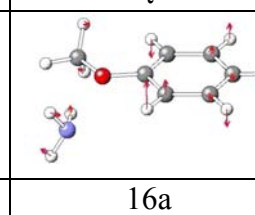
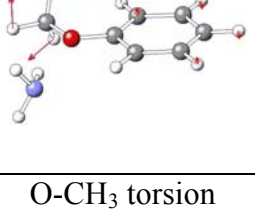
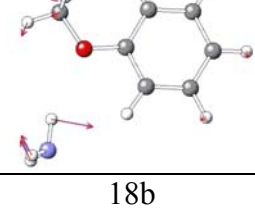
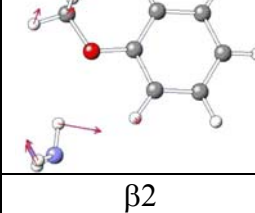
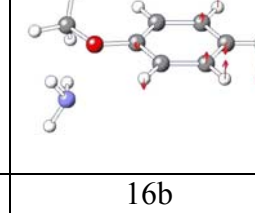
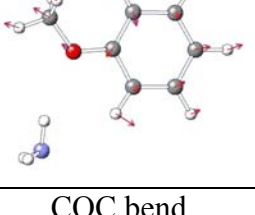
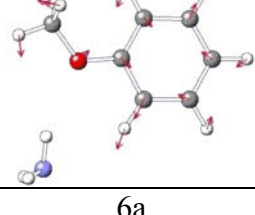
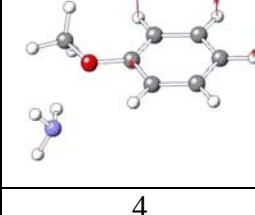
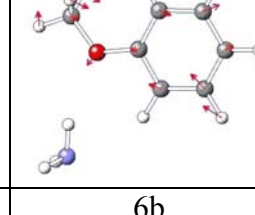
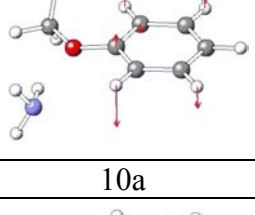
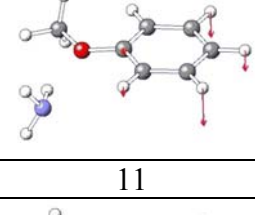
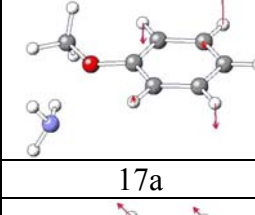
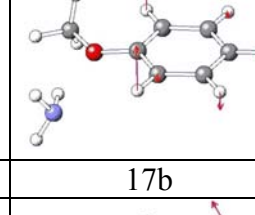
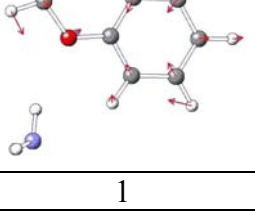
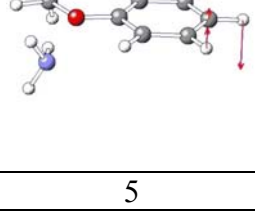
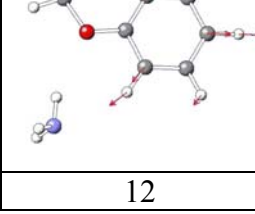
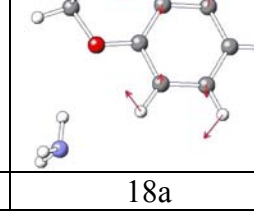
C.4 Schwingungsbilder von Anisol-d8 im S_1 -Zustand

			
COC torsion	10b	16a	O-CH ₃ torsion
			
18b	16b	COC bend.	10a
			
4	6a	6b	11
			
17a	17b	1	5

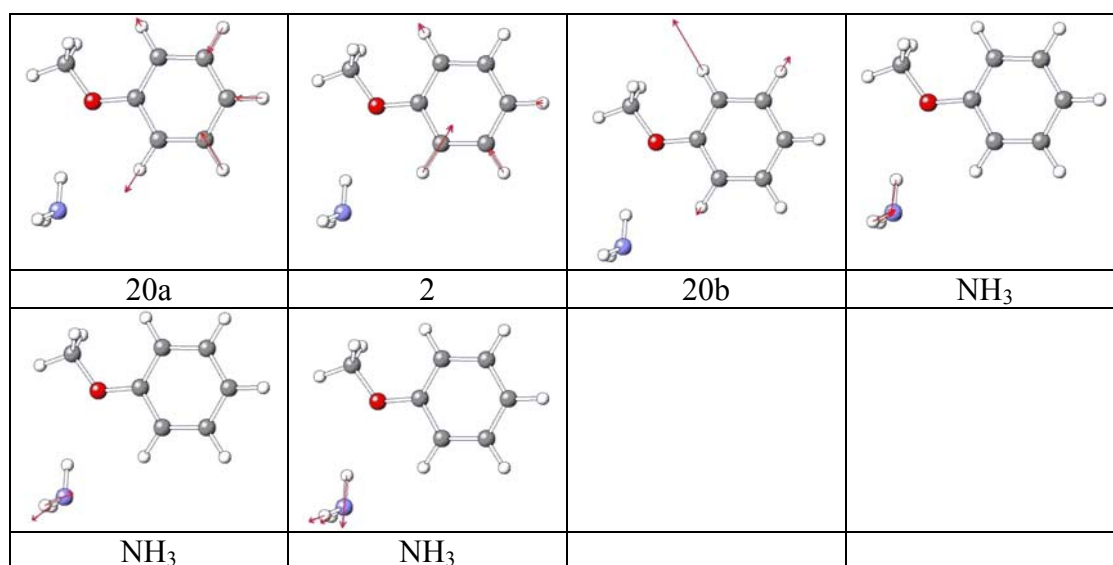


			
8a	14	CH ₃ sym. stretch a'	CH ₃ asym. stretch a''
			
CH ₃ asym. stretch a'	13	7b	20a
			
2	20b		

C.5 Schwingungsbilder von Anisol-h8/NH3 im S₁-Zustand

			
$\rho1$	$\beta1$	σ	τ
			
COC torsion	$\rho2$	10b	16a
			
O-CH ₃ torsion	18b	$\beta2$	16b
			
COC bend.	6a	4	6b
			
10a	11	17a	17b
			
1	5	12	18a

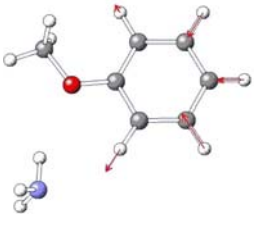
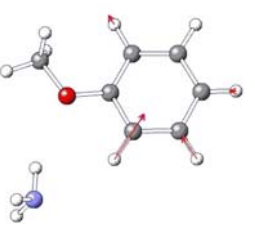
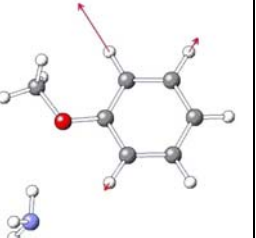
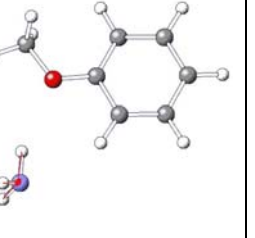
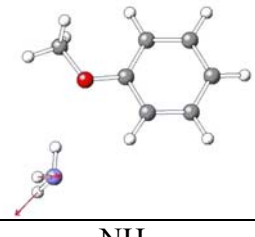
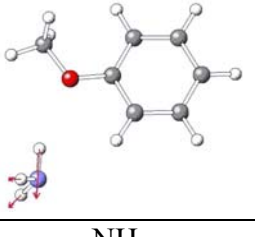
9b	NH ₃	O-CH ₃ stretch.	15
9a	CH ₃ rock a'	CH ₃ rock a''	8b
7a	3	19b	CH ₃ sym. def. a'
CH ₃ asym. def. a'	19a	CH ₃ asym. def. a''	8a
NH ₃	NH ₃	14	CH ₃ sym. stretch. a'
CH ₃ asym. stretch. a''	CH ₃ asym. stretch. a'	13	7b



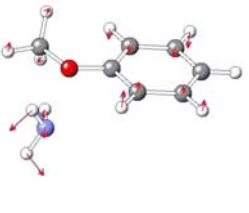
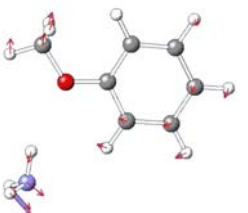
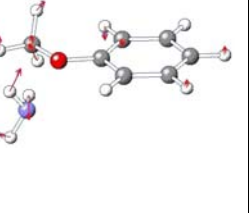
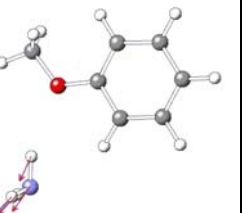
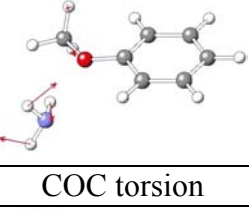
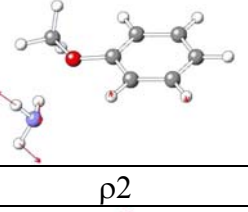
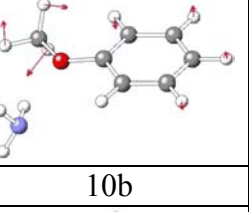
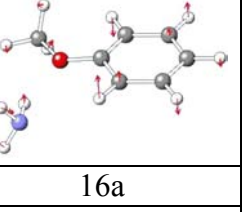
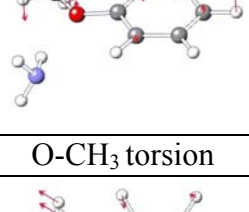
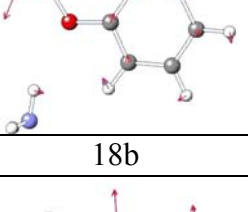
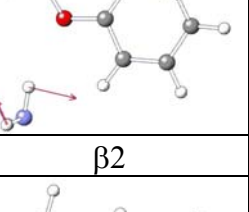
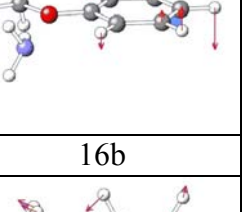
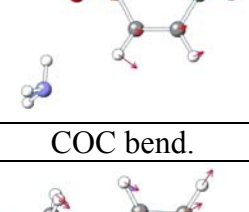
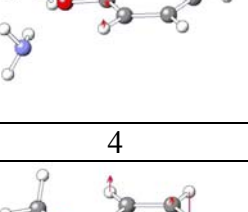
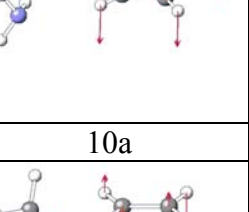
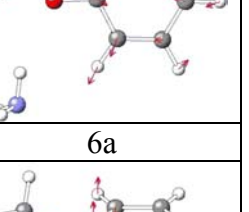
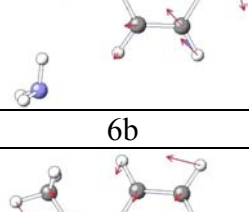
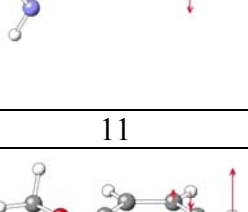
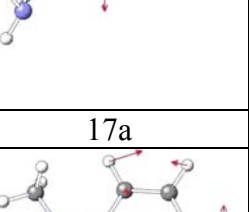
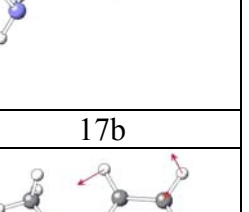
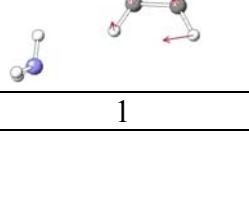
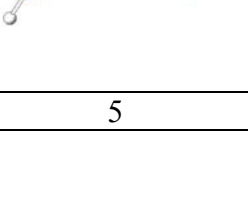
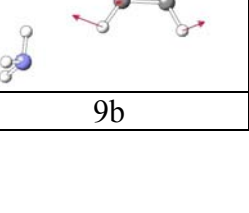
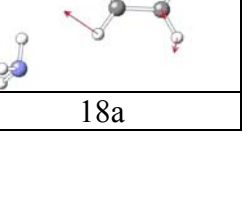
C.6 Schwingungsbilder von Anisol-d3/ NH₃ im S₁-Zustand

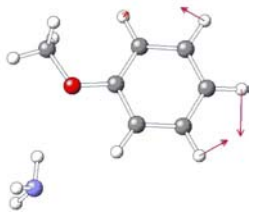
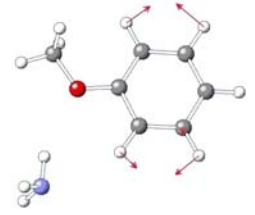
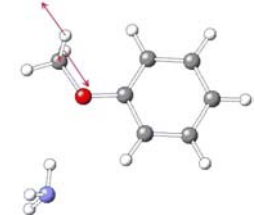
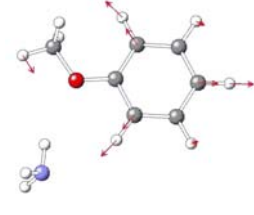
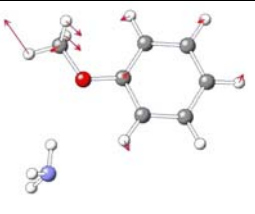
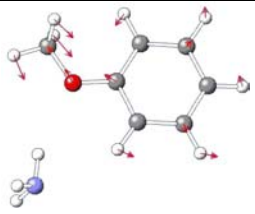
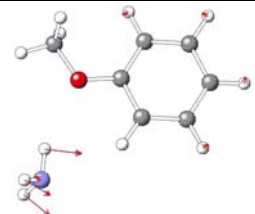
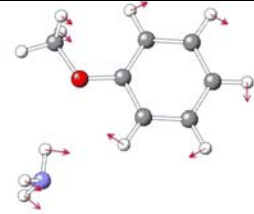
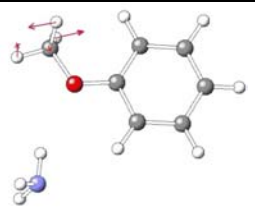
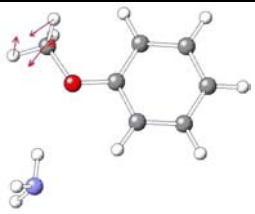
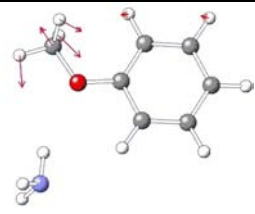
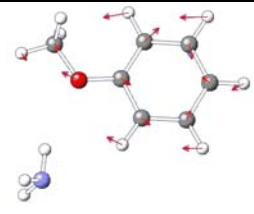
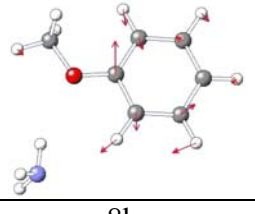
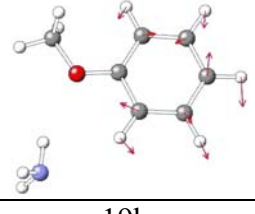
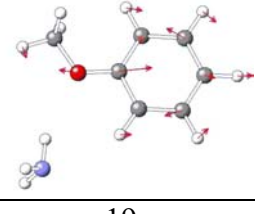
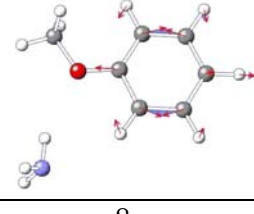
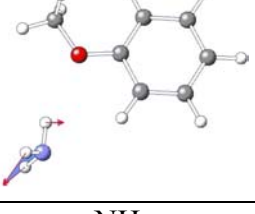
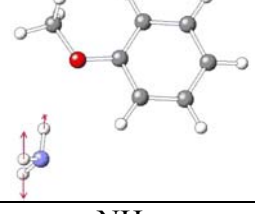
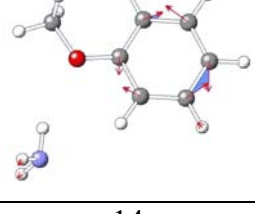
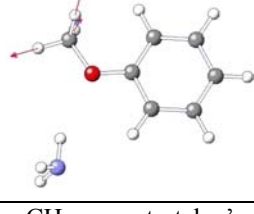
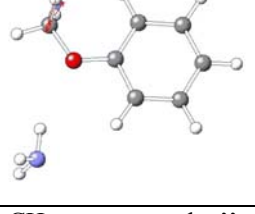
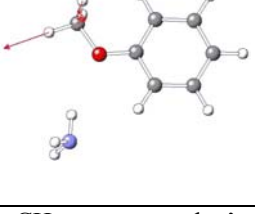
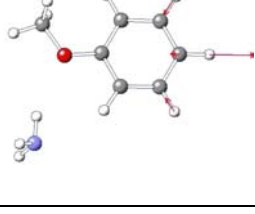
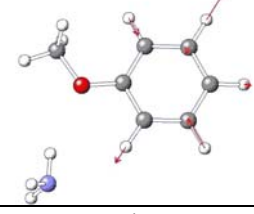
$\rho 1$	$\beta 1$	σ	τ
COC torsion	$\rho 2$	10b	16a
O-CH ₃ torsion	18b	$\beta 2$	16b
COC bend.	6a	6b	4
10a	11	17a	1
17b	5	CH ₃ rock a'	CH ₃ rock a''

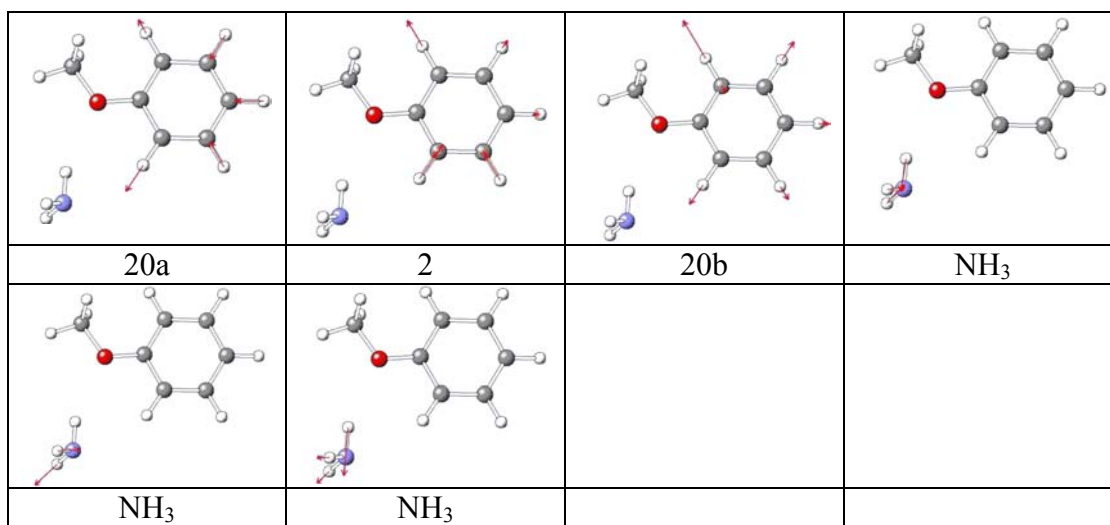
12	18a	O-CH ₃ stretch.	9b
NH ₃	CH ₃ asym. def. a'	CH ₃ asym. def. a''	15
CH ₃ sym. Def. A'	9a	8b	7a
3	19b	19a	8a
NH ₃	NH ₃	14	CH ₃ sym. stretch a'
CH ₃ asym. stretch a''	CH ₃ asym. stretch a'	13	7b

			
20a	2	20b	NH ₃
			
NH ₃	NH ₃		

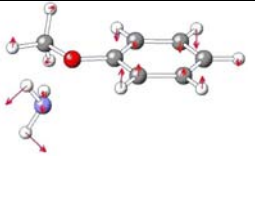
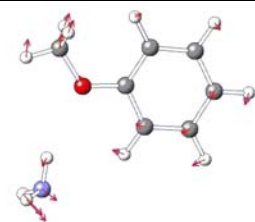
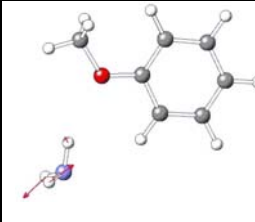
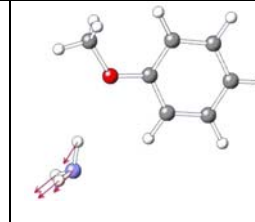
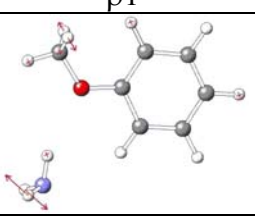
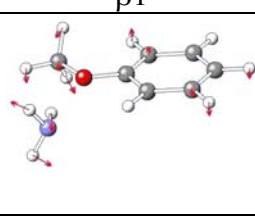
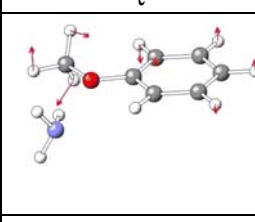
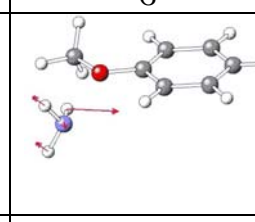
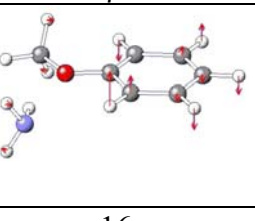
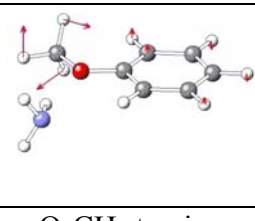
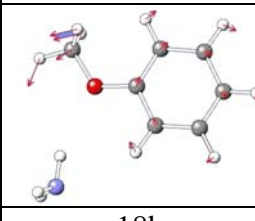
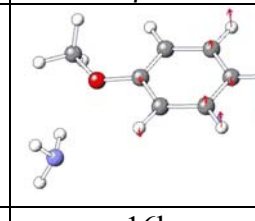
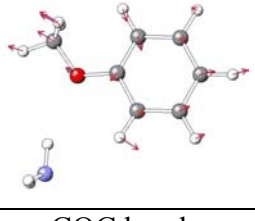
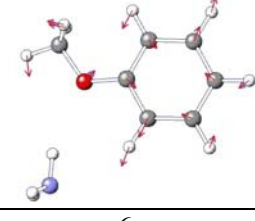
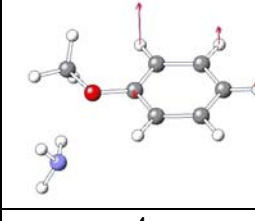
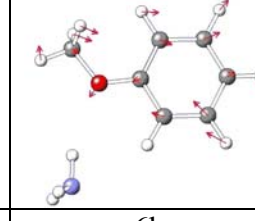
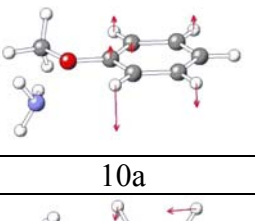
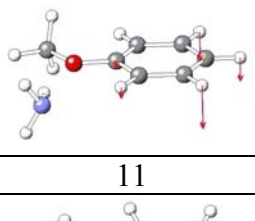
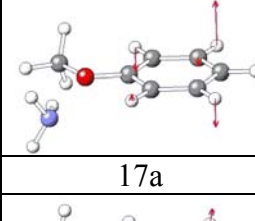
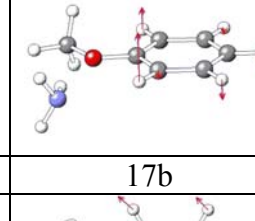
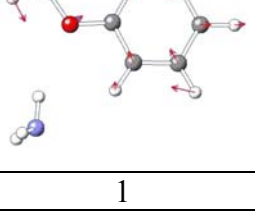
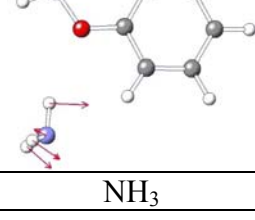
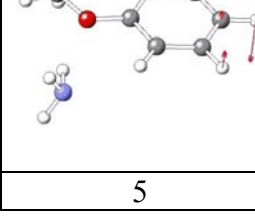
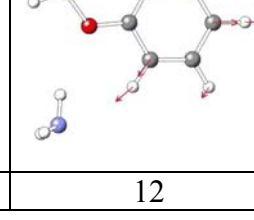
C.7 Schwingungsbilder von Anisol-d8/ NH3 im S₁-Zustand

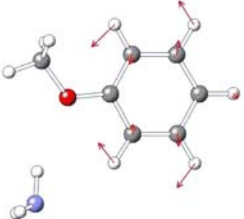
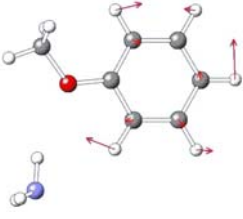
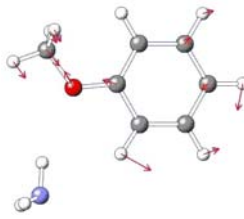
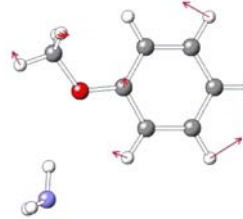
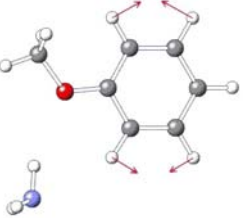
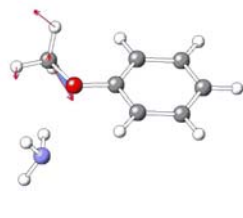

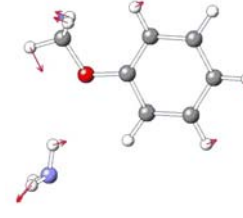
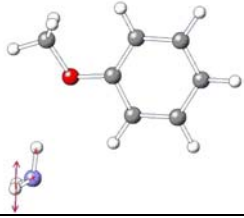
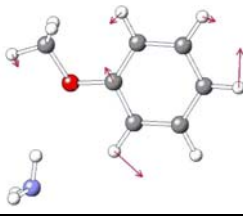
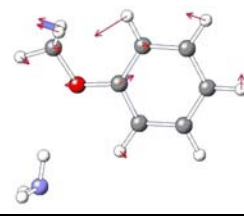
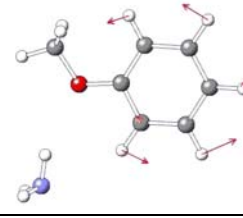
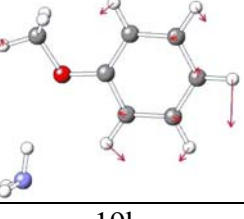
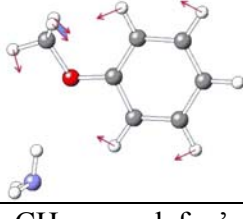
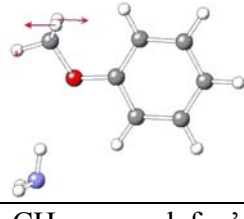
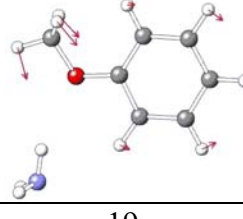
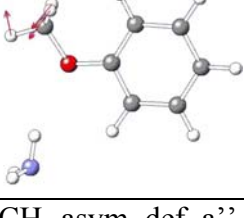
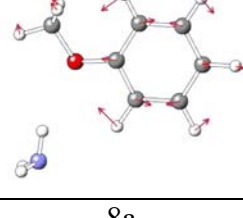
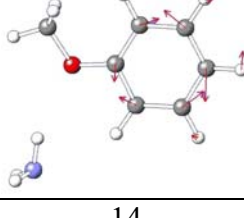
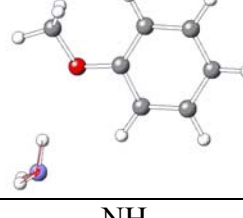
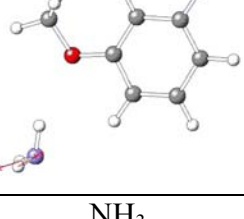
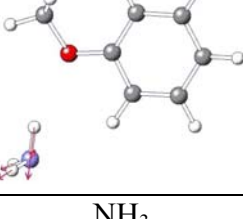
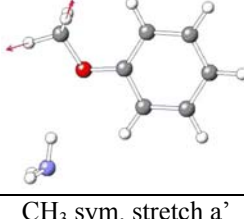
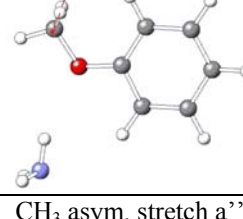
			
$\rho 1$	$\beta 1$	τ	σ
			
COC torsion	$\rho 2$	10b	16a
			
O-CH ₃ torsion	18b	$\beta 2$	16b
			
COC bend.	4	10a	6a
			
6b	11	17a	17b
			
1	5	9b	18a

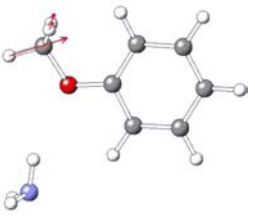
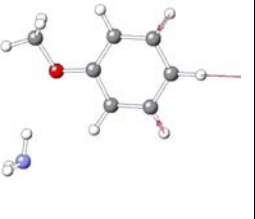
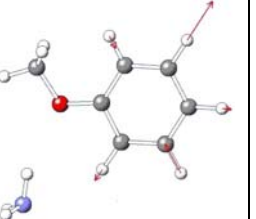
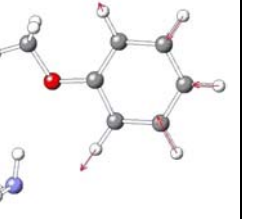
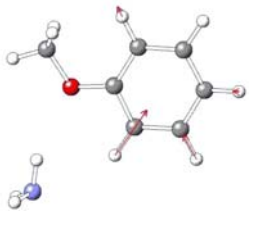
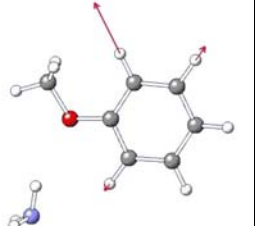
			
15	9a	CH ₃ rock a'	12
			
CH ₃ rock a''	O-CH ₃ stretch	NH ₃	3
			
CH ₃ asym. def. a'	CH ₃ asym. def. a''	CH ₃ sym. def. a'	7a
			
8b	19b	19a	8a
			
NH ₃	NH ₃	14	CH ₃ sym. stretch a'
			
CH ₃ asym. stretch a''	CH ₃ asym. stretch a'	13	7b



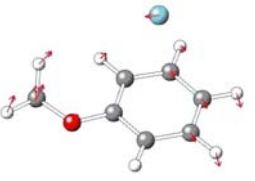
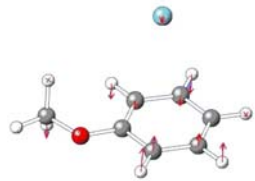
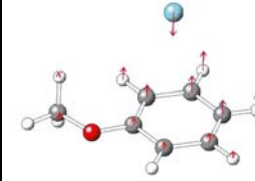
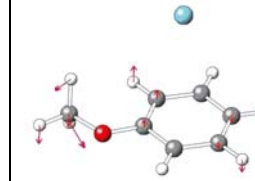
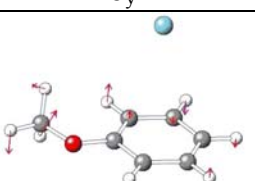
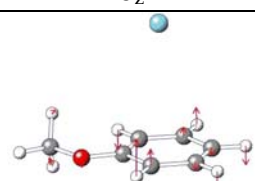
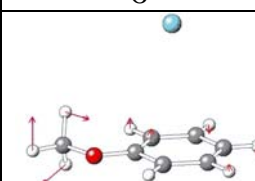
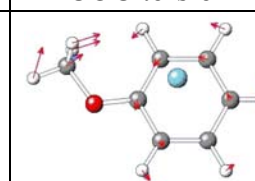
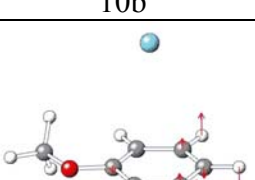
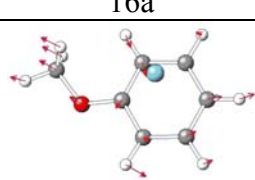

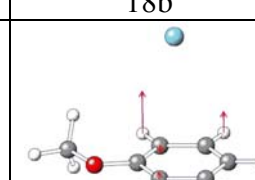
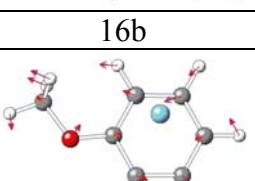
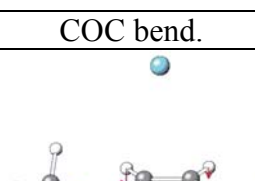
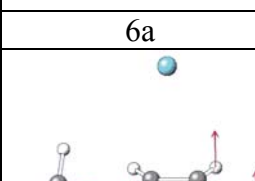
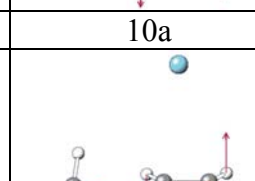
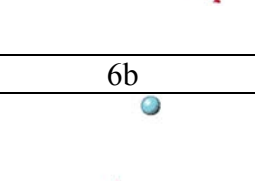
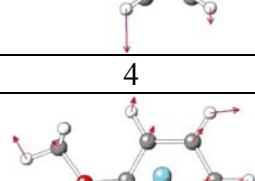
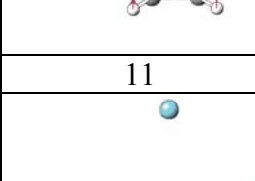
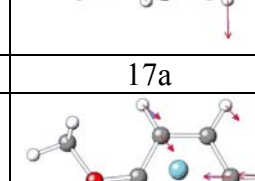
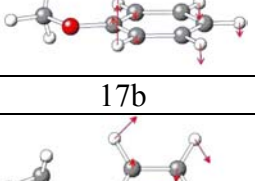
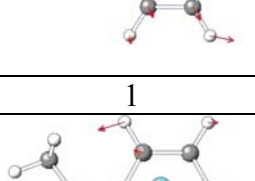
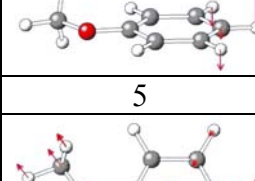
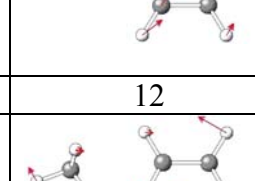
C.8 Schwingungsbilder von Anisol-h8/ ND₃ im S₁-Zustand

			
$\rho 1$	$\beta 1$	τ	σ
			
$\rho 2$	COC torsion	10b	$\beta 2$
			
16a	O-CH ₃ torsion	18b	16b
			
COC bend.	6a	4	6b
			
10a	11	17a	17b
			
1	NH ₃	5	12

			
18a	9b	O-CH ₃ stretch	15
			
9a	CH ₃ rock a'	CH ₃ rock a''	NH ₃
			
NH ₃	8b	7a	3
			
19b	CH ₃ sym. def. a'	CH ₃ asym. def. a'	19a
			
CH ₃ asym. def. a''	8a	14	NH ₃
			
NH ₃	NH ₃	CH ₃ sym. stretch a'	CH ₃ asym. stretch a''

			
CH ₃ asym. stretch a'	13	7b	20a
			
2	20b		

C.9 Schwingungsbilder von Anisol-h8/Ar im S₁-Zustand

			
b _y	b _z	σ	COC torsion
			
10b	16a	O-CH ₃ torsion	18b
			
16b	COC bend.	6a	10a
			
6b	4	11	17a
			
17b	1	5	12
			
18a	9b	O-CH ₃ stretch	15

9a	CH ₃ rock a'	CH ₃ rock a''	8b
7a	3	19b	CH ₃ sym. def. a'
CH ₃ asym. def. a'	19a	CH ₃ sym. def. a''	8a
14	CH ₃ sym. stretch a'	CH ₃ asym. stretch a''	CH ₃ asym. stretch a'
13	7b	20a	2
20b			

C.10 Schwingungsbilder von Anisol-h8/CO2 im S₁-Zustand

Inter1	Inter2	Inter3	σ
Inter4	COC torsion	10b	16a
O-CH ₃ torsion	18b	16b	COC bend.
6a	10a	6b	4
11	17a	CO ₂	CO ₂
17b	1	5	12
18a	9b	O-CH ₃ stretch.	15

9a	CH ₃ rock a'	CH ₃ rock a''	8b
7a	3	CO ₂	19b
CH ₃ sym. def. a'	19a	CH ₃ asym. def. a'	CH ₃ asym. def. a''
8a	14	CO ₂	CH ₃ sym. stretch a'
CH ₃ asym. stretch a''	CH ₃ asym. stretch a'	13	7b
20a	2	20b	