APPENDICES

APPENDIX 1: TABLES A1 – A11

Table A-1: Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of CH_3NH_2 buffer.[a]

pH = 9.80 ± 0.40

$[Am]_T$ (M)	pH [b]	$10^2 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^2 k_{obscald}$ [f] (s^{-1})	$10^2 k_{obscald}$ [g] (s^{-1})
0.02	8.79	3.18 ± 0.008	18488 ± 24	0.134 ± 0.002	3.14	3.04
0.03	9.85	4.96 ± 0.07	18612 ± 134	0.132 ± 0.009	5.01	4.98
0.04	9.95	6.96 ± 0.06	18132 ± 114	0.156 ± 0.007	6.90	6.92
0.05	9.92	8.37 ± 0.9	17267 ± 133	0.208 ± 0.008	8.81	8.87
0.06	9.95	11.2 ± 0.1	18477 ±211	0.119 ± 0.013	10.7	10.8
0.07	9.96	13.0 ± 0.2	18677± 329	0.119 ± 0.020	12.7	12.8
0.08	9.97	14.2 ± 0.2	18277 ± 392	0.143 ± 0.024	14.7	14.7
0.10	9.97	18.8 ± 0.1	18228 ± 177	0.152 ± 0.011	18.7	18.6

pH = 10.15 ± 0.05

$[Am]_T$ (M)	pH [b]	$10^2 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^2 k_{obscald}$ [f] (s^{-1})	$10^2 k_{obscald}$ [g] (s^{-1})
0.02	10.03	4.08 ± 0.04	18232 ± 97	0.155 ± 0.006	4.52	4.04
0.03	10.12	6.50 ± 0.05	18411 ± 97	0.153 ± 0.006	6.77	6.5
0.04	10.15	8.84 ± 0.08	17691 ± 138	0.176 ± 0.009	9.03	8.95
0.05	10.17	11.3 ± 0.04	18880 ± 61	0.127 ± 0.004	11.3	11.4
0.06	10.17	13.9 ± 0.08	17751 ± 119	0.198 ± 0.008	13.5	13.9
0.07	10.17	16.4 ± 0.1	18519± 238	0.156 ± 0.015	15.8	16.3
0.08	10.18	19.0 ± 0.09	18929 ± 145	0.133 ± 0.009	18.1	18.8
0.10	10.19	23.5 ± 0.2	18300 ± 355	0.170 ± 0.022	22.6	23.7

pH = 10.35 ± 0.05

$[Am]_T$ (M)	pH [b]	$10^2 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^2 k_{obscald}$ [f] (s^{-1})	$10^2 k_{obscald}$ [g] (s^{-1})
0.02	10.25	5.55 ± 0.06	17500 ± 116	0.197 ± 0.007	6.11	5.08
0.03	10.32	8.47 ± 0.07	17188 ± 114	0.226 ± 0.007	9.17	8.61
0.04	10.35	12.0 ± 0.05	17961 ± 84	0.195 ± 0.005	12.2	12.1
0.05	10.36	15.2 ± 0.08	18095 ± 132	0.178 ± 0.008	15.3	15.7
0.06	10.38	19.0 ± 0.2	19152 ± 438	0.114 ± 0.027	18.3	19.2
0.07	10.38	23.4 ± 0.4	17446 ± 662	0.226 ± 0.040	21.4	22.8
0.08	10.39	26.2 ± 0.5	16641 ± 725	0.297 ± 0.044	24.5	26.3

Table A1, Continued

pH = 10.56 ± 0.05

$[Am]_T$ (M)	pH [b]	$10^2 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^2 k_{obscald}$ [f] (s^{-1})	$10^2 k_{obscald}$ [g] (s^{-1})
0.020	10.45	7.18 ± 0.2	18113 ± 343	0.174 ± 0.023	7.70	6.78
0.025	10.53	9.25 ± 0.03	17716 ± 53	0.185 ± 0.003	9.62	8.96
0.030	10.54	11.2 ± 0.06	17304 ± 91	0.218 ± 0.006	11.5	11.1
0.035	10.56	13.3 ± 0.06	17380 ± 87	0.214 ± 0.006	13.5	13.3
0.040	10.56	15.1 ± 0.06	17267 ± 86	0.209 ± 0.005	14.4	15.5
0.044	10.57	17.1 ± 0.1	16336 ± 122	0.281 ± 0.008	16.9	17.2
0.049	10.58	19.3 ± 0.2	17113 ± 211	0.248 ± 0.013	18.9	19.4
0.054	10.57	20.2 ± 0.3	15292 ± 519	0.362 ± 0.032	20.8	21.6
0.060	10.60	24.8 ± 0.5	17100 ± 693	0.236 ± 0.042	23.1	24.2
0.700	10.61	29.3 ± 0.7	18014 ±1025	0.180± 0.062	26.9	28.6

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.4 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = methylamine buffer concentration.
[b] pH at t = ∞ (reaction finished)
[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$
[d] Є apparent
[e] A_o = initial absorbance
[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$
[g] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$ with $k_o = 0$

Table A-2 : Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of $C_6H_5CH_2NH_2$ buffer.[a]

pH = 8.28 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})	$10^3 k_{obscald}$ [g] (s^{-1})
0.05	8.35	2.70 ± 0.04	15291 ± 76	0.089 ± 0.004	2.69	2.76
0.10	8.34	5.58 ± 0.07	15225 ± 66	0.105 ± 0.003	5.49	5.52
0.20	8.30	11.0 ± 0.2	14836 ± 76	0.145 ± 0.004	11.0	11.0
0.30	8.23	16.5 ± 0.02	14871 ± 67	0.181 ± 0.004	16.7	16.6
0.35	8.20	19.7 ± 0.8	14994 ± 251	0.177 ± 0.016	19.5	19.3

Table A2, Continued

pH = 8.51 ± 0.06

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	ϵ_{app} [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	8.57	3.84 ± 0.03	16236 ± 40	0.099 ± 0.002	4.12
0.10	8.56	7.57 ± 0.1	16327 ± 64	0.106 ± 0.004	7.59
0.20	8.50	15.1 ± 0.2	16161 ± 78	0.122 ± 0.005	14.50
0.30	8.46	21.6 ± 0.2	16044 ± 76	0.170 ± 0.005	21.5
0.35	8.44	24.6 ± 0.3	16004 ± 94	0.188 ± 0.006	25.0

pH = 8.72 ± 0.06

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	ϵ_{app} [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	8.77	5.21 ± 0.07	17364 ± 58	0.095 ± 0.003	5.42
0.10	8.77	10.2 ± 0.1	17255 ± 74	0.119 ± 0.004	10.1
0.20	8.73	19.6 ± 0.2	16816 ± 92	0.131 ± 0.006	19.4
0.30	8.68	28.5 ± 0.3	17063 ± 76	0.173 ± 0.005	28.7
0.35	8.64	33.3 ± 0.3	16840 ± 97	0.195 ± 0.006	33.3

pH = 8.91 ± 0.03

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	ϵ_{app} [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	8.92	6.67 ± 0.07	18293 ± 62	0.100 ± 0.003	7.03
0.10	8.94	13.3 ± 0.1	18238 ± 69	0.111 ± 0.004	13.00
0.20	8.91	25.2 ± 0.3	17820 ± 111	0.163 ± 0.007	24.9
0.30	8.91	36.7 ± 0.3	17574 ± 73	0.196 ± 0.005	37.0
0.35	8.86	42.8 ± 0.4	17234 ± 114	0.193 ± 0.008	42.8

pH = 9.31 ± 0.01

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	ϵ_{app} [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.04	9.29	7.42 ± 0.2	19380 ± 165	0.083 ± 0.009	7.69
0.08	9.32	14.3 ± 0.1	19125 ± 63	0.081 ± 0.004	14.3
0.12	9.31	21.3 ± 0.2	19123 ± 67	0.089 ± 0.004	20.9
0.16	9.31	27.7 ± 0.4	18896 ± 120	0.094± 0.008	27.5
0.20	9.31	33.7 ± 0.6	18431 ± 159	0.110 ± 0.010	34.1

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.4 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = benzylamine buffer concentration.
[b] pH at t = ∞ (reaction finished)
[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$
[d] ϵ apparent
[e] A_o = initial absorbance

[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$
[g] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$ with $k_o = 0$

Table A-3: Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of $C_6H_5CH_2NH_2$ buffer.[a]

pH = 8.37 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	8.46	3.31 ± 0.03	16277 ± 50	0.021 ± 0.003	3.09
0.10	8.42	5.84 ± 0.2	16088 ± 197	0.042 ± 0.010	6.09
0.20	8.39	12.1 ± 0.7	16672 ± 361	0.052 ± 0.021	12.1
0.30	8.31	17.9 ± 0.7	15781 ± 279	0.050 ± 0.017	18.1
0.35	8.29	21.2 ± 0.3	15645 ± 93	0.059 ± 0.006	21.0

pH = 8.46 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	8.63	3.81 ± 0.03	16399 ± 42	0.029 ± 0.002	3.76
0.10	8.52	6.64 ± 0.4	16684 ± 268	0.049 ± 0.015	7.31
0.20	8.45	15.5 ± 0.4	16645 ± 201	0.018 ± 0.012	14.4
0.30	8.40	21.2 ± 0.4	16274 ± 142	0.053 ± 0.009	21.5
0.35	8.37	24.8 ± 0.4	16187 ± 131	0.059 ± 0.008	25.0

pH = 8.65 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})	$10^3 k_{obscald}$ [g] (s^{-1})
0.05	8.73	4.88 ± 0.07	17388 ± 73	0.079 ± 0.004	4.64	4.72
0.10	8.71	8.54 ± 0.5	18003 ± 363	0.092 ± 0.019	9.41	9.43
0.20	8.648	19.9 ± 0.2	17286 ± 64	0.076 ± 0.004	18.9	18.9
0.30	8.59	28.5 ± 0.2	17038 ± 65	0.091 ± 0.004	28.5	28.3
0.35	8.59	32.9 ± 0.4	17254 ± 103	0.093 ± 0.007	33.2	33.0

Table A3, Continued

pH = 8.86 ± 0.05

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	8.91	6.53 ± 0.05	18361 ± 45	0.076 ± 0.003	7.01
0.10	8.90	13.4 ± 0.1	18414 ± 58	0.078 ± 0.004	13.0
0.20	8.88	24.8 ± 0.5	18042 ± 201	0.105 ± 0.012	24.9
0.25	8.83	37.9 ± 0.8	18305 ± 203	0.079 ± 0.014	36.8
0.30	8.80	41.9 ± 0.4	17783 ± 101	0.112 ± 0.007	42.8

pH = 9.25 ± 0.05

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.04	9.24	7.39 ± 0.06	19435 ± 58	0.080 ± 0.003	7.71
0.08	9.28	14.9 ± 0.1	19469 ± 61	0.969 ± 0.004	14.90
0.12	9.26	22.3 ± 0.3	19705 ± 125	0.065 ± 0.008	22.1
0.16	9.24	30.0 ± 0.2	19113 ± 59	0.101 ± 0.004	29.2
0.20	9.24	35.7 ± 0.2	18925 ± 67	0.104 ± 0.004	36.4

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.3 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = benzylamine buffer concentration.
[b] pH at t = ∞ (reaction finished)
[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$
[d] Є apparent
[e] A_o = initial absorbance
[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$
[g] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$ with $k_o = 0$

Table A-4 : Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of $(CH_3)_2NH_2$ buffer.[a]

pH = 10.05 ± 0.10

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})	$10^3 k_{obscald}$ [g] (s^{-1})
0.010	8.93	1.84 ± 0.03	19938 ± 127	0.048 ± 0.007	2.14	1.76
0.015	9.95	2.86 ± 0.03	19694 ± 95	0.090 ± 0.006	3.21	3
0.020	10.03	4.18 ± 0.03	19854 ± 88	0.068 ± 0.006	4.28	4.22
0.025	10.11	5.48 ± 0.05	19476 ± 124	0.044 ± 0.008	5.36	5.45
0.030	10.10	6.73 ± 0.07	19779 ± 136	0.077 ± 0.009	6.43	6.68
0.035	10.12	8.09 ± 0.05	20108 ± 107	0.032 ± 0.007	7.50	7.91
0.040	10.12	9.06 ± 0.08	19611 ± 136	0.075 ± 0.009	8.57	9.14
0.045	10.12	10.3 ± 0.09	19141 ± 157	0.091 ± 0.010	9.64	10.4

Table A4, Continued

pH = 10.20 ± 0.08

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})	$10^3 k_{obscald}$ [g] (s^{-1})
0.010	10.04	2.66 ± 0.04	19683 ± 100	0.094 ± 0.006	2.67	2.31
0.015	10.14	3.51 ± 0.1	19592 ± 294	0.081 ± 0.019	4.00	3.78
0.020	10.17	5.12 ± 0.03	20024 ± 68	0.059 ± 0.04	5.33	5.25
0.250	10.221	6.69 ± 0.06	20161 ± 100	0.064 ± 0.007	6.67	6.72
0.030	0.251	8.18 ± 0.06	19706 ± 122	0.070 ± 0.008	8.00	8.19
0.035	0.24	9.61 ± 0.1	19659 ± 201	0.104 ± 0.013	9.33	9.66
0.040	10.26	11.3 ± 0.2	19363 ± 291	0.111 ± 0.018	10.7	11.3
0.045	10.28	12.6 ± 0.2	20429 ± 309	0.017 ± 0.019	12.0	12.6

pH = 10.32 ± 0.10

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})	$10^3 k_{obscald}$ [g] (s^{-1})
0.010	10.15	3.11 ± 0.03	20036 ± 81	0.069 ± 0.005	3.51	3.04
0.015	10.25	5.00 ± 0.04	20036 ± 99	0.067 ± 0.006	5.27	5.06
0.020	10.37	7.20 ± 0.1	20023 ± 221	0.074 ± 0.014	7.02	7.08
0.025	10.39	8.91 ± 0.08	19307 ± 161	0.093 ± 0.010	8.78	9.10
0.030	10.33	11.0 ± 0.1	19654 ± 206	0.074 ± 0.013	10.5	11.1
0.035	10.43	13.3 ± 0.2	20540 ± 313	0.024 ± 0.020	12.3	13.1

pH = 10.66 ± 0.08

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})	$10^3 k_{obscald}$ [g] (s^{-1})
0.010	10.55	4.85 ± 0.06	19926 ± 155	0.045 ± 0.010	5.24	4.79
0.150	10.57	7.95 ± 0.06	19841 ± 108	0.048 ± 0.007	7.87	7.66
0.020	10.72	10.3 ± 0.09	19411 ± 158	0.073 ± 0.010	10.5	10.5
0.025	10.72	13.1 ± 0.1	20183± 277	0.024± 0.017	13.1	13.4
0.030	10.72	16.1 ± 0.1	19219 ± 163	0.089 ± 0.010	15.7	16.3
0.035	10.68	19.5 ± 0.2	19175 ± 245	0.102 ± 0.015	18.4	19.1

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.4 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = *N*,*N*-dimethylamine buffer concentration.
[b] pH at t = ∞ (reaction finished)
[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$
[d] Є apparent
[e] A_o = initial absorbance
[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$
[g] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$ with $k_o = 0$

Table A-5: Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of $(CH_3CH_2)_2NH_2$ buffer.[a]

pH = 10.34 ± 0.05

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	10.39	1.02 ± 0.02	20224 ± 96	0.074± 0.005	1.07
0.10	10.38	2.06 ± 0.03	20091 ± 86	0.067± 0.005	2.05
0.20	10.36	4.01 ± 0.05	19956 ± 71	0.082 ± 0.004	4.02
0.30	10.35	6.09 ± 0.04	19948 ± 47	0.076 ± 0.003	5.99
0.40	10.31	8.01 ± 0.06	19853 ± 83	0.103 ± 0.003	7.96
0.45	10.27	8.84 ± 0.07	19707 ± 51	0.114 ± 0.003	8.94

pH = 10.44 ± 0.04

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	10.46	1.28 ± 0.01	20028 ± 67	0.079± 0.003	1.32
0.10	10.47	2.54 ± 0.03	19823 ± 73	0.073± 0.004	2.49
0.20	10.39	4.80 ± 0.04	19505 ± 53	0.088 ± 0.003	4.83
0.30	10.42	7.22 ± 0.06	19435 ± 55	0.093 ± 0.003	7.16
0.40	10.41	9.43 ± 0.07	19577 ± 48	0.105± 0.003	9.50
0.45	10.39	10.7 ± 0.07	19314 ± 45	0.110 ± 0.003	10.67

pH = 10.77 ± 0.04

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	10.79	2.04 ± 0.02	20225 ± 80	0.065 ± 0.004	2.08
0.10	10.81	3.58 ± 0.2	19804 ± 288	0.083 ± 0.015	3.57
0.20	10.79	6.60 ± 0.08	20106 ± 82	0.099 ± 0.005	6.55
0.35	10.72	11.0 ± 0.2	20095± 123	0.107± 0.007	11.0
0.40	10.74	12.5 ± 0.1	19611 ± 71	0.104 ± 0.004	12.5

pH = 11.10 ± 0.04

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	11.12	3.01 ± 0.03	19979 ± 69	0.079± 0.004	3.39
0.10	11.14	5.46b± 0.04	20048 ± 50	0.089 ± 0.003	5.3
0.20	11.15	9.57 ± 0.09	19980 ± 67	0.106 ± 0.004	9.06
0.35	11.09	12.7 ± 0.1	20527 ± 65	0.127 ± 0.004	12.8
0.35	11.07	14.6 ± 0.2	20176 ± 84	0.156 ± 0.005	14.7
0.40	11.05	16.6 ± 0.2	19999 ± 77	0.177± 0.005	16.6

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.4 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = *N*,*N*-diEthylamine buffer concentration.
[b] pH at t = ∞ (reaction finished)
[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$
[d] Є apparent
[e] A_o = initial absorbance
[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$

Table A-6 : Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of $C_6H_5CH_2NHCH_3$ buffer.[a]

pH = 8.64 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	8.73	1.92 ± 0.06	18247 ± 143	0.071 ± 0.007	2.06
0.10	8.72	3.49 ± 0.06	18154 ± 87	0.088 ± 0.004	3.55
0.20	8.65	6.99 ± 0.08	17262 ± 62	0.100 ± 0.003	6.53
0.30	8.59	9.39 ± 0.2	17689 ± 104	0.144 ± 0.006	9.52
0.35	8.55	10.9 ± 0.1	17284 ± 81	0.153 ± 0.004	11.0

pH = 8.79 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	8.88	2.38 ± 0.03	18599 ± 62	0.079 ± 0.003	2.67
0.10	8.85	4.61 ± 0.05	18476 ± 64	0.089 ± 0.004	4.50
0.20	8.79	8.64 ± 0.1	18242 ± 72	0.127 ± 0.004	8.15
0.30	8.74	11.5 ± 0.1	18435 ± 88	0.147 ± 0.005	11.8
0.35	8.71	13.6 ± 0.1	18456 ± 66	0.158 ± 0.004	13.6

pH = 9.00 ± 0.06

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	9.06	3.36 ± 0.02	18676 ± 36	0.069 ± 0.002	3.44
0.10	9.06	6.21 ± 0.07	18553 ± 77	0.088 ± 0.004	5.95
0.20	9.00	10.8 ± 0.2	18868 ± 139	0.127 ± 0.008	11.0
0.30	8.94	15.6 ± 0.3	18308 ± 162	0.174 ± 0.010	16.0
0.35	8.95	18.8 ± 0.1	18220 ± 60	0.176 ± 0.004	18.5

Table A6, Continued

pH = 9.22± 0.05

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	9.28	4.31 ± 0.05	19500 ± 67	0.078 ± 0.004	4.97
0.10	9.26	8.35 ± 0.07	19148 ± 62	0.089 ± 0.004	8.10
0.20	9.23	15.1 ± 0.2	19318 ± 84	0.147 ± 0.005	14.4
0.30	9.18	20.8 ± 0.3	19364 ± 88	0.140 ± 0.006	20.6
0.35	9.16	23.1 ± 0.3	18343 ± 106	0.180 ± 0.007	23.7

pH = 9.63 ± 0.01

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.04	9.64	5.32 ± 0.07	20446 ± 95	0.067 ± 0.005	5.40
0.08	9.63	9.26 ± 0.2	20071 ± 150	0.111 ± 0.008	9.51
0.12	9.63	13.8 ± 0.1	19723 ± 91	0.112 ± 0.005	13.6
0.16	9.63	18.2 ± 0.2	19655 ± 99	0.119± 0.006	17.7
0.20	9.61	21.3 ± 0.3	19319 ± 128	0.167 ± 0.008	21.8

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.4 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = *N*-methylbenzylamine buffer concentration.
[b] pH at t = ∞ (reaction finished)
[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$
[d] Є apparent
[e] A_o = initial absorbance
[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$

Table A-7 : Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of $C_6H_5CH_2NHCH_3$ buffer.[a]

pH = 8.60 ± 0.10

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	8.70	1.75 ± 0.03	18721 ± 108	0.078 ± 0.004	2.11
0.10	8.69	3.80 ± 0.03	17800 ± 53	0.077 ± 0.003	3.69
0.20	8.60	7.45 ± 0.06	18931 ± 62	0.104 ± 0.004	6.86
0.30	8.53	9.89 ± 0.1	17732 ± 70	0.139 ± 0.004	10.0
0.35	8.48	11.4 ± 0.2	17042 ± 94	0.154 ± 0.005	11.6

Table A7, Continued

pH = 8.71 ± 0.09

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	8.82	2.15 ± 0.05	18841 ± 148	0.065 ± 0.008	2.43
0.10	8.80	4.53 ± 0.04	18438 ± 55	0.085 ± 0.003	4.33
0.20	8.70	8.28 ± 0.05	18058 ± 37	0.108 ± 0.002	8.13
0.30	8.64	12.2 ± 0.09	18174 ± 46	0.134 ± 0.003	11.9
0.35	8.61	13.5 ± 0.1	17692 ± 54	0.157 ± 0.003	13.8

pH = 8.97 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	9.01	3.33 ± 0.04	19057 ± 90	0.078 ± 0.005	3.31
0.10	9.05	6.06 ± 0.08	18777 ± 86	0.085 ± 0.005	5.84
0.20	8.98	10.5 ± 0.2	18633 ± 173	0.135 ± 0.010	10.9
0.30	8.92	15.9 ± 0.3	18294 ± 153	0.172 ± 0.009	16.0
0.35	8.88	18.7 ± 0.2	18040 ± 74	0.194 ± 0.005	18.5

pH = 9.16 ± 0.06

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.05	9.23	4.21 ± 0.03	19858 ± 56	0.064 ± 0.003	4.46
0.10	9.20	7.84 ± 0.09	19390 ± 68	0.092 ± 0.004	7.69
0.20	9.18	14.6 ± 0.1	18712 ± 80	0.128 ± 0.005	14.2
0.25	9.12	20.0 ± 0.2	19588 ± 89	0.141 ± 0.006	20.6
0.30	9.07	24.1 ± 0.3	18617 ± 102	0.192 ± 0.006	23.8

pH = 9.60 ± 0.02

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})
0.04	9.62	4.79 ± 0.06	20415 ± 84	0.071 ± 0.005	5.28
0.08	9.62	9.62 ± 0.1	19905 ± 118	0.105 ± 0.007	9.30
0.12	9.60	13.3 ± 0.2	19748 ± 121	0.126 ± 0.007	13.3
0.16	9.60	18.4 ± 0.2	19802 ± 120	0.130 ± 0.007	17.3
0.20	9.57	20.5 ± 0.4	19319 ± 127	0.165 ± 0.008	21.4

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.3 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = *N*-methylbenzylamine buffer concentration.
[b] pH at t = ∞ (reaction finished)
[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$
[d] Є apparent
[e] A_o = initial absorbance
[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$

Table A-8: Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of $C_6H_5CH_2NCH_2CH_3$ buffer.[a]

pH = 8.28 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^3 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^3 k_{obscald}$ [f] (s^{-1})	$10^3 k_{obscald}$ [g] (s^{-1})
0.05	8.35	2.70 ± 0.04	15291 ± 76	0.089 ± 0.004	2.69	2.76
0.10	8.34	5.58 ± 0.07	15225 ± 66	0.105 ± 0.003	5.49	5.52
0.20	8.30	11.0 ± 0.2	14836 ± 76	0.145 ± 0.004	11.0	11.0
0.30	8.23	16.5 ± 0.02	14871 ± 67	0.181 ± 0.004	16.7	16.6
0.35	8.20	19.7 ± 0.8	14994 ± 251	0.177 ± 0.016	19.5	19.3

pH = 8.81 ± 0.06

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.86	9.29 ± 0.1	18539 ± 104	0.077 ± 0.004	9.64
0.10	8.87	18.2 ± 0.4	18932 ± 131	0.078 ± 0.005	18.20
0.20	8.83	35.9 ± 0.5	18995 ± 96	0.072 ± 0.005	35.40
0.30	8.76	53.4 ± 1.1	18225 ± 113	0.093± 0.006	52.6
0.35	8.73	60.3 ± 1.3	18469 ± 114	0.104 ± 0.006	61.2

pH = 9.11 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.05	9.19	1.36 ± 0.03	20172± 140	0.075 ± 0.004	1.53
0.10	9.17	2.73 ± 0.1	19156 ± 45	0.075 ± 0.002	2.67
0.20	9.13	5.12 ± 0.08	18926 ± 103	0.079 ± 0.006	4.96
0.30	9.05	7.47 ± 0.1	18779 ± 80	0.125 ± 0.004	7.24
0.35	9.03	8.11 ± 0.2	19082 ± 160	0.139 ± 0.008	8.39

pH = 9.31 ± 0.06

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.05	9.36	1.78 ± 0.03	20315 ± 108	0.083 ± 0.005	1.76
0.10	9.36	3.29 ± 0.03	20222 ± 53	0.088 ± 0.003	3.33
0.20	9.32	6.48 ± 0.09	19304 ± 75	0.086 ± 0.004	6.47
0.30	9.25	9.70 ± 0.09	19820 ± 51	0.131± 0.003	9.6
0.35	9.24	11.1 ± 0.1	18843 ± 65	0.142 ± 0.003	11.2

Table A8, Continued

pH = 9.71 ± 0.06

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.04	9.75	2.86 ± 0.02	19524 ± 53	0.120 ± 0.002	2.98
0.08	9.74	5.57 ± 0.02	20240 ± 50	0.145 ± 0.002	5.39
0.12	9.73	7.56 ± 0.02	19258 ± 73	0.141 ± 0.004	7.80
0.16	9.74	10.6 ± 0.02	19979 ± 62	0.137± 0.003	10.20
0.20	9.71	12.4 ± 0.07	19063 ± 40	0.137 ± 0.002	12.60

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.4 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = *N*-ethylbenzylamine buffer concentration.
[b] pH at t = ∞ (reaction finished)
[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$
[d] Є apparent
[e] A_o = initial absorbance
[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$
[g] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$ with $k_o = 0$

Table A-9 : Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of $C_6H_5CH_2NCH_2CH_3$ buffer.[a]

pH = 8.65 ± 0.09

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.75	7.76 ± 0.09	17938 ± 79	0.083 ± 0.003	7.37
0.10	8.73	15.1 ± 0.3	18032 ± 113	0.078 ± 0.005	14.7
0.20	8.66	27.8 ± 1.2	19102 ± 275	0.100 ± 0.014	29.4
0.30	8.57	44.7 ± 1.2	17224 ± 148	0.092 ± 0.008	44.2
0.33	8.54	48.9 ± 0.8	17685 ± 99	0.094 ± 0.005	48.6

pH = 8.77 ± 0.08

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.86	9.42 ± 0.1	18891 ± 91	0.080 ± 0.004	9.85
0.10	8.85	18.6 ± 0.3	19331 ± 107	0.077 ± 0.005	18.2
0.20	8.74	35.2 ± 1.0	18786 ± 175	0.085 ± 0.008	35.0
0.30	8.71	51.8 ± 1.3	18398 ± 144	0.120 ± 0.007	51.7
0.35	8.68	59.9 ± 1.7	18312 ± 156	0.123 ± 0.008	60.1

Table A9, Continued

pH = 8.97 ± 0.08

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	ϵ_{app} [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})	$10^4 k_{obscald}$ [g] (s^{-1})
0.05	9.05	1.28 ± 0.04	20367 ± 215	0.074 ± 0.007	1.06	1.16
0.10	9.05	2.12 ± 0.03	21527 ± 104	0.092 ± 0.004	2.24	2.31
0.20	8.89	4.26 ± 0.1	20034 ± 184	0.091 ± 0.009	4.61	4.62
0.30	8.90	7.30 ± 0.06	18523 ± 54	0.077 ± 0.003	6.97	6.93
0.35	8.89	8.08 ± 0.06	18607 ± 47	0.080 ± 0.002	8.16	8.09

pH = 9.21 ± 0.08

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	ϵ_{app} [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.05	9.31	1.81 ± 0.01	20373 ± 52	0.075 ± 0.002	1.80
0.10	9.28	3.22 ± 0.02	20708 ± 37	0.081 ± 0.002	3.38
0.20	9.20	6.79 ± 0.04	19196 ± 36	0.070 ± 0.002	6.56
0.25	9.15	9.80 ± 0.07	19273 ± 44	0.076 ± 0.002	9.74
0.30	9.12	11.2 ± 0.09	19261 ± 46	0.082 ± 0.002	11.3

pH = 9.61 ± 0.02

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	ϵ_{app} [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.04	9.60	1.99 ± 0.03	21020 ± 113	0.083 ± 0.004	2.06
0.08	9.64	3.92 ± 0.05	20684 ± 88	0.079 ± 0.004	3.85
0.12	9.63	5.66 ± 0.08	20397 ± 83	0.087 ± 0.004	5.63
0.16	9.61	7.41 ± 0.1	20018 ± 109	0.083 ± 0.005	7.41
0.20	9.59	9.16 ± 0.1	19809 ± 110	0.079 ± 0.006	9.19

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.3 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = *N*-ethylbenzylamine buffer concentration.
[b] pH at t = ∞ (reaction finished)
[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$
[d] Є apparent
[e] A_o = initial absorbance
[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$

Table A-10 : Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of $C_6H_5CH_2N(CH_3)_2$ buffer.[a]

pH = 8.07 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.14	0.513 ± 0.01	14430 ±111	0.089 ± 0.004	0.533
0.10	8.11	1.02 ± 0.03	13966 ±147	0.081 ± 0.006	0.95
0.20	8.10	1.70 ± 0.1	14431 ± 273	0.093 ± 0.001	1.78
0.30	8.01	2.61 ± 0.08	12372 ± 112	0.066 ± 0.005	2.61
0.35	7.97	3.05 ± 0.1	12032 ± 127	0.051 ± 0.006	3.02

pH = 8.16 ± 0.06

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.16	0.907 ± 0.01	15053 ±78	0.085 ± 0.002	0.797
0.10	8.21	1.12 ± 0.04	145766 ±159	0.0979 ± 0.005	1.34
0.20	8.17	2.60 ± 0.05	13721 ± 79	0.089 ± 0.004	2.43
0.30	8.09	3.46 ± 0.7	13245 ± 74	0.090 ± 0.003	3.52
0.35	8.80	4.07 ± 0.08	12702 ± 79	0.084 ± 0.004	4.07

pH = 8.20 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.27	0.613 ± 0.01	15957 ±128	0.100 ± 0.005	0.75
0.10	8.26	1.35± 0.04	15085 ±119	0.090 ± 0.005	1.24
0.20	8.21	2.31 ± 0.03	13776 ± 62	0.093 ± 0.003	2.30
0.30	8.17	3.32 ± 0.08	13233 ± 103	0.080 ± 0.005	3.36
0.35	8.11	3.91 ± 0.06	12904 ± 77	0.086 ± 0.004	3.90

pH = 8.34 ± 0.08

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.42	0.573 ± 0.01	16896 ± 163	0.037 ± 0.004	0.643
0.10	8.39	1.23 ± 0.03	14441 ± 110	0.038 ± 0.004	1.17
0.20	8.38	2.28 ± 0.2	14763 ± 292	0.041 ± 0.010	2.24
0.30	8.27	3.31 ± 0.2	13525 ± 211	0.033 ± 0.010	3.30
0.35	8.23	3.79 ± 0.2	12652 ± 188	0.039 ± 0.009	3.83

Table A10, Continued

pH = 8.35 ± 0.08

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.41	1.04 ± 0.02	15799 ± 105	0.111 ± 0.004	1.04
0.10	8.42	1.94 ± 0.07	16106 ± 171	0.113 ± 0.008	1.94
0.20	8.37	3.58 ± 0.08	15643 ± 130	0.102 ± 0.006	3.58
0.30	8.31	5.13 ± 0.1	14839 ± 117	0.078 ± 0.005	5.13
0.35	8.24	5.55± 0.04	13825 ± 45	0.103 ± 0.002	5.55

pH = 8.45 ± 0.08

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.54	0.948 ± 0.05	19372 ± 333	0.037 ± 0.008	0.994
0.10	8.51	1.79± 0.1	17116 ± 276	0.037 ± 0.010	1.83
0.20	8.46	3.61± 014	15497 ± 176	0.033 ± 0.007	3.51
0.30	8.38	5.39 ± 0.17	15454 ± 152	0.033 ± 0.006	5.19
0.35	8.35	5.82± 0.15	14976 ± 124	0.032 ± 0.005	6.0

pH = 8.50 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.57	1.48 ± 0.02	17241 ± 85	0.119 ± 0.003	1.67
0.10	8.57	2.59± 0.02	16469 ± 54	0.113 ± 0.002	2.51
0.20	8.51	4.43± 0.07	16045 ± 97	0.120 ± 0.004	4.19
0.30	8.46	5.90 ± 0.08	15965 ± 91	0.103 ± 0.004	5.86
0.35	8.41	6.53± 0.2	15156± 164	0.126 ± 0.008	6.70

pH = 8.65 ± 0.06

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.71	2.11 ± 0.04	17690 ± 99	0.087 ± 0.004	2.26
0.10	8.69	3.63 ± 0.05	17766 ± 67	0.087 ± 0.003	3.59
0.20	8.66	6.57 ± 0.09	17148 ± 93	0.084 ± 0.004	6.24
0.30	8.62	8.59± 0.4	16233 ± 268	0.068 ± 0.010	8.89
0.35	8.57	10.3 ± 0.4	15645 ± 260	0.078 ± 0.010	10.20

Table A10, Continued

pH = 8.76 ± 0.02

$[Am]_T$ (M)	pH [b]	$10^5 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^5 k_{obscald}$ [f] (s^{-1})
0.05	8.78	1.47 ± 0. 3	18043 ± 119	0.086 ± 0.005	1.34
0.10	8.77	2.32 ± 0.2	17831 ± 310	0.088 ± 0.014	2.60
0.20	8.78	5.26± 0.13	15220 ± 120	0.143 ± 0.005	5.11
0.30	8.75	7.81 ±0.2	15088 ± 129	0.145 ± 0.006	7.63
0.35	8.74	8.71 ± 0.2	14971 ± 122	0.144 ± 0.006	8.89

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.4 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = *N*,*N*-dimethylbenzylamine buffer concentration.
[b] pH at t = ∞ (reaction finished)
[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$
[d] Є apparent
[e] A_o = initial absorbance
[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$

Table A-11 : Values of Kinetic Parameter k_{obs}, $Є_{app}$ and A_o Calculated from Eq. (3-13) for the Cleavage of 26 in the Presence of *o*-$HOCH_2C_6H_5CH_2N(CH_3)_2$ buffer.[a]

pH = 7.99 ± 0.07

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.05	8.06	1.09 ± 0.03	12540 ± 119	0.043 ± 0.005	1.10
0.10	8.04	1.96 ± 0.05	11778 ± 113	0.039 ± 0.005	1.89
0.15	7.99	2.56 ± 0.03	12455 ± 58	0.014 ± 0.003	2.69
0.20	7.95	3.57 ± 0.1	10778 ± 99	0.033 ± 0.005	3.48
0.25	7.90	4.25 ± 0.2	10316 ± 139	0.026 ± 0.007	4.27

pH = 7.91 ± 0.09

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.05	8.73	0.92 ± 0.02	11218 ± 87	0.034 ± 0.004	1.01
0.10	8.72	1.51 ± 0.1	11503 ± 287	0.068 ± 0.012	1.55
0.15	7.91	2.28 ± 0.07	10954 ± 138	0.101 ± 0.006	2.09
0.20	7.86	2.73 ± 0.1	11339 ± 186	0.131 ± 0.009	2.62
0.25	7.80	2.99 ± 0.2	10706 ± 296	0.204 ± 0.015	3.20

Table A11, Continued

pH = 8.21 ± 0.05

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.04	8.29	1.18 ± 0.02	13767 ± 89	0.064 ± 0.004	1.20
0.08	8.22	2.09 ± 0.03	13419 ± 80	0.077 ± 0.003	2.08
0.12	8.19	3.01 ± 0.07	13399± 107	0.092 ± 0.004	2.97
0.14	8.18	3.37 ± 0.04	10652 ± 40	0.086 ± 0.002	3.40
0.16	8.17	3.84 ± 0.09	12853 ± 97	0.109 ± 0.004	3.90

pH = 8.22 ± 0.08

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.05	8.29	1.42 ± 0.02	14070 ± 88	0.053 ± 0.004	1.55
0.10	8.25	2.65± 0.06	13515 ± 101	0.106 ± 0.005	2.55
0.15	8.22	3.66 ± 0.08	13897 ± 106	0.145 ± 0.005	3.55
0.24	8.10	5.27 ± 0.2	12157 ± 181	0.274 ± 0.009	5.35

pH = 8.27 ± 0.03

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.04	8.23	0.822 ± 0.009	11712 ± 468	0.033 ± 0.002	0.92
0.08	8.29	1.89± 0.02	13620 ± 65	0.031± 0.003	2.01
0.12	8.30	3.45 ± 0.04	14328 ± 54	0.043 ± 0.003	3.11
0.16	8.29	4.25 ± 0.1	13914 ± 94	0.033 ± 0.005	4.20
0.20	8.25	5.12 ± 0.1	13254 ± 123	0.045 ± 0.006	5.30

pH = 8.56 ± 0.05

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	$Є_{app}$ [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.04	8.62	1.76 ± 0.03	116743± 90	0.079 ± 0.004	1.82
0.08	8.60	3.07 ± 0.06	16684 ± 115	0.093 ± 0.004	3.07
0.12	8.58	4.50 ± 0.02	15611 ± 27	0.106± 0.001	4.31
0.16	8.53	5.43 ± 0.1	15427 ± 94	0.114 ± 0.005	5.56
0.20	8.49	6.80± 0.1	14753 ± 83	0.111 ± 0.004	6.80

Table A11, Continued

pH = 8.68 ± 0.05

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	ϵ_{app} [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.04	8.71	1.84 ± 0.02	17503 ± 87	0.033 ± 0.004	1.99
0.08	8.72	3.53 ± 0.07	17141 ± 116	0.060 ± 0.005	3.21
0.12	8.69	4.30 ± 0.1	16721 ± 170	0.088 ± 0.008	4.44
0.16	8.65	5.57 ± 0.3	16555 ± 296	0.141 ± 0.015	5.66
0.20	8.61	6.94 ± 0.2	16127 ± 136	0.164 ± 0.007	6.88

pH = 8.85 ± 0.04

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	ϵ_{app} [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.04	8.87	2.03 ± 0.02	17416 ± 59	0.116± 0.003	2.28
0.08	8.89	3.69 ± 0.03	17210 ± 51	0.130 ± 0.002	3.58
0.12	8.85	5.20 ± 0.05	17123± 49	0.145 ± 0.002	4.88
0.16	8.82	6.23 ± 0.07	16698 ± 61	0.160 ± 0.003	6.18
0.20	8.80	7.26 ± 0.08	16775 ± 60	0.173± 0.003	7.48

pH = 8.93 ± 0.03

$[Am]_T$ (M)	pH [b]	$10^4 k_{obs}$ [c] (s^{-1})	ϵ_{app} [d] ($M^{-1}cm^{-1}$)	A_o [e]	$10^4 k_{obscald}$ [f] (s^{-1})
0.04	8.96	2.23 ± 0.03	18536 ± 100	0.028± 0.005	2.46
0.08	8.96	4.17 ± 0.1	17826 ± 215	0.061 ± 0.010	3.94
0.20	8.94	5.48 ± 0.07	17842 ± 80	0.084 ± 0.003	5.41
0.12	8.89	7.00 ± 0.10	17674 ± 88	0.120 ± 0.005	6.89
0.16	8.92	8.19 ± 0.2	17620 ± 115	0.138± 0.006	8.36

[a] [**26**$_0$] = 6 x 10^{-5} M, μ = 0.4 M, T = 30°C, λ = 400 nm, 50 % v/v CH_3CN in mixed aqueous reaction mixture and $[Am]_T$ = *N*,*N*-(diethylmethylamino)benzyl alcohol buffer concentration.

[b] pH at t = ∞ (reaction finished)

[c] $k_{obs} = k_o + k_{1obs}[Buf]_T$

[d] Є apparent

[e] A_o = initial absorbance

[f] Calculated from $k_{obs} = k_o + k_{1obs}[Buf]_T$

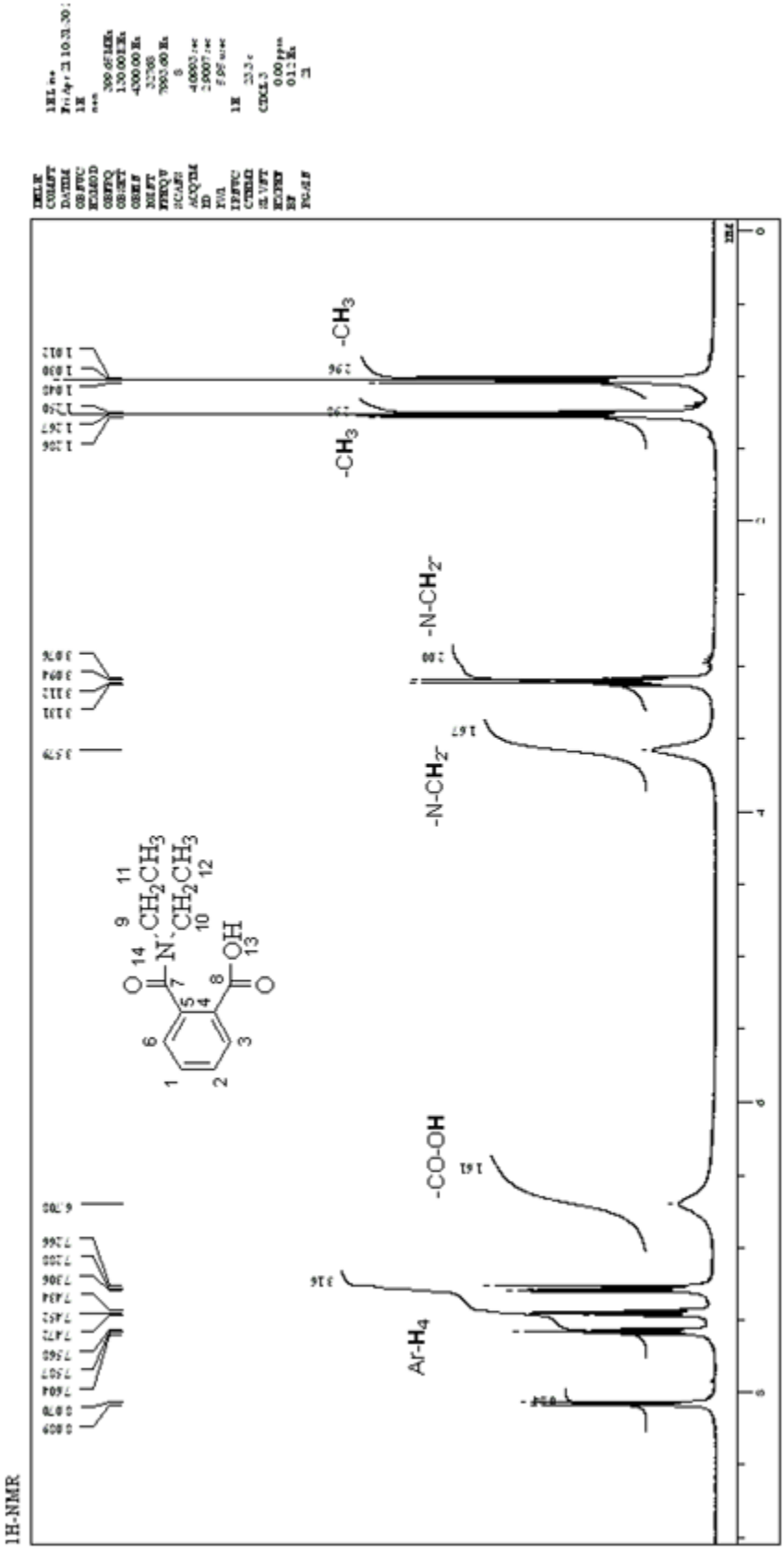
Table A-12 : Values of pH and $[NaOH]_T$/M for The Plot of pH Versus $[NaOH]_T$/M

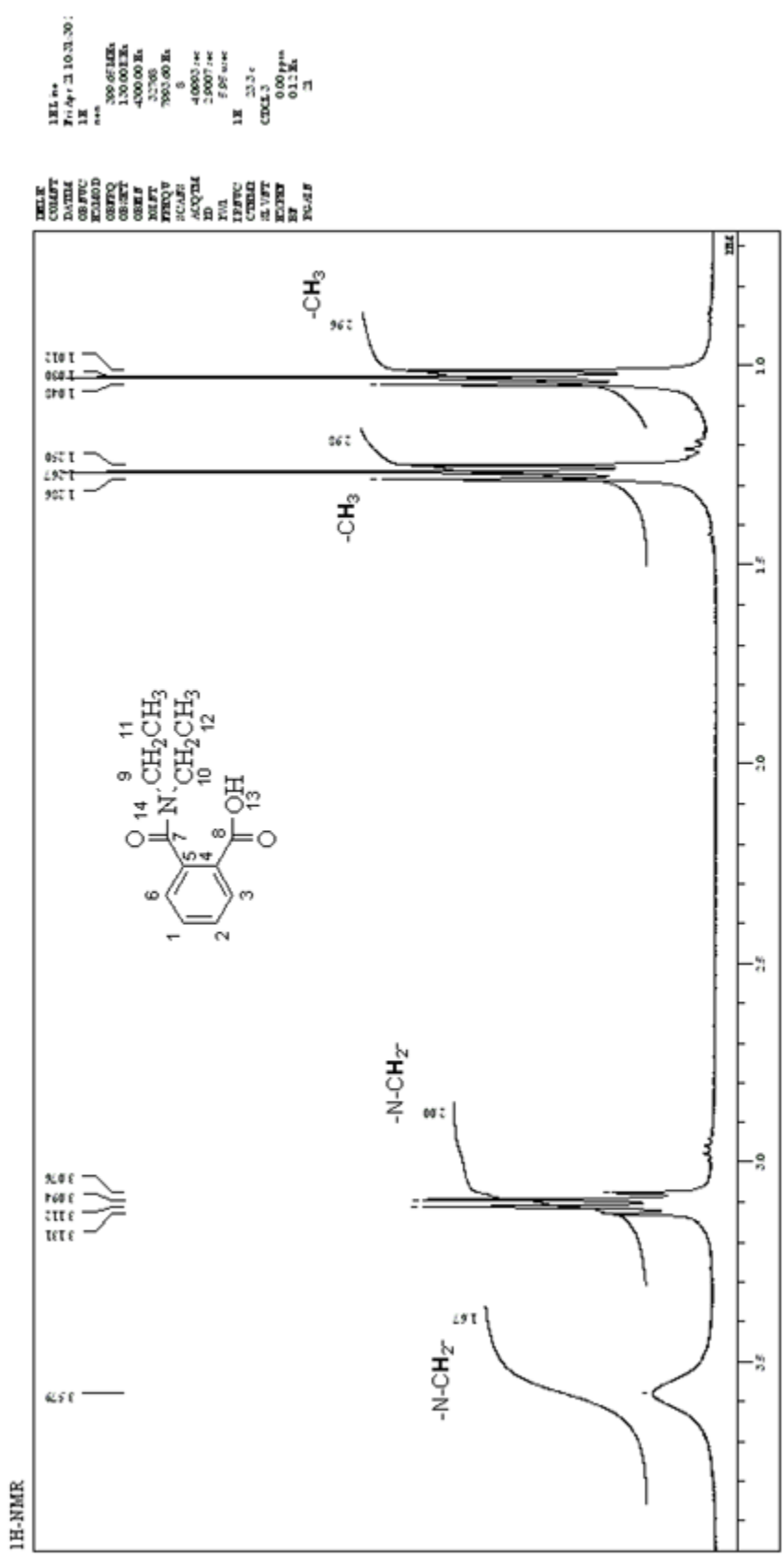
10^5 $[NaOH]_T$ (M)	pH [a]	pH [b]
5	7.20	7.15
6	7.38	7.17
7	7.52	7.36
9	8.04	8.04
10	8.05	8.24
13	- [c]	9.04
15	9.38	9.38
20	10.30	10.10
25	10.42	10.29
30	10.61	10.51
40	11.04	10.95

[a] μ = 0.3 M, revealed Eq. (4-6).
[a] μ = 0.4 M, revealed Eq. (4-7).
[c] data was not taken.

APPENDIX 2: 1H-NMR, 13C-NMR, COSY AND IR SPECTRUMS.

1. *N,N*-Diethylphthalamic Acid

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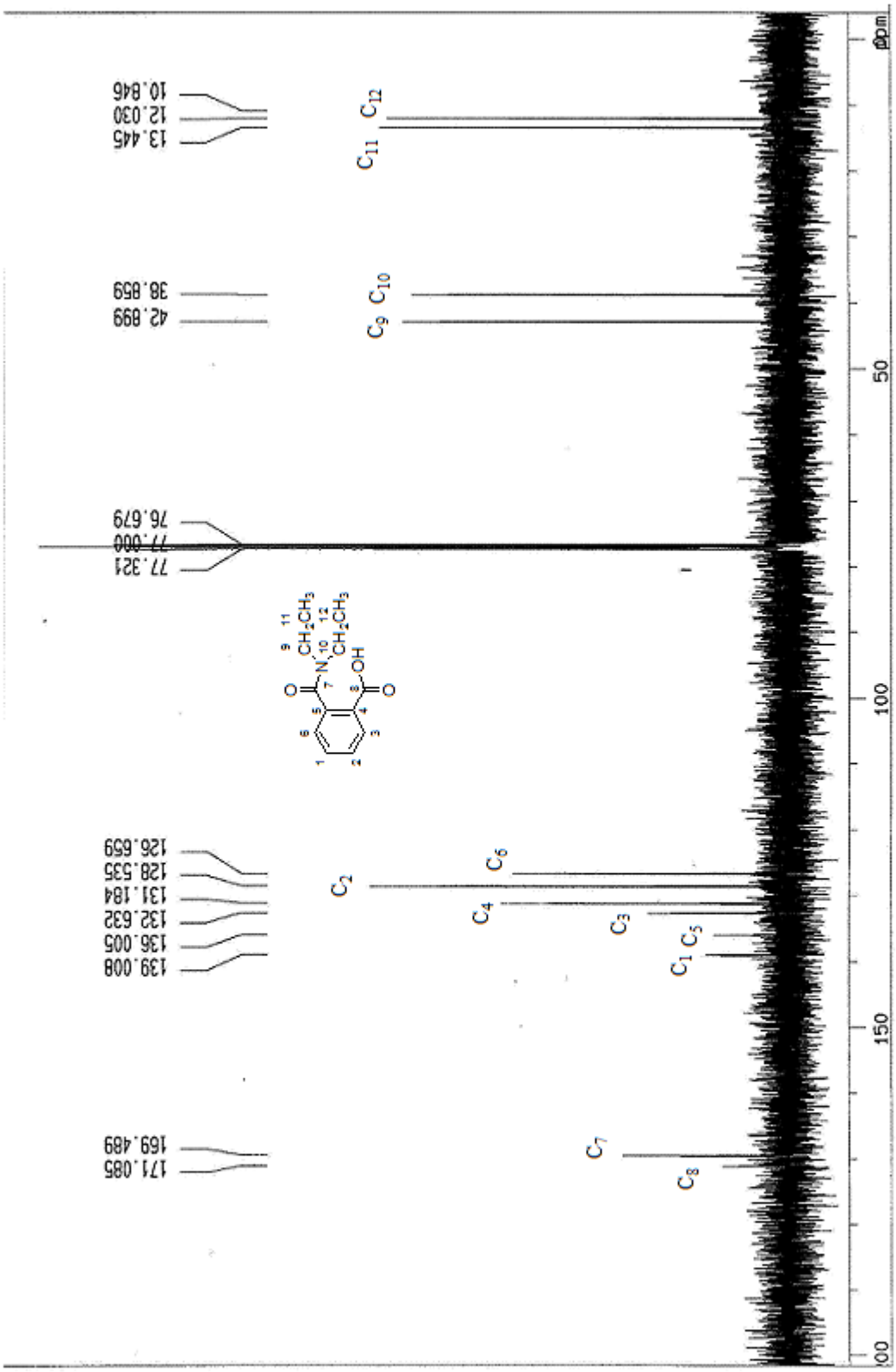
-CH3
-CH3
-N-CH2-
-N-CH2-
CDCl3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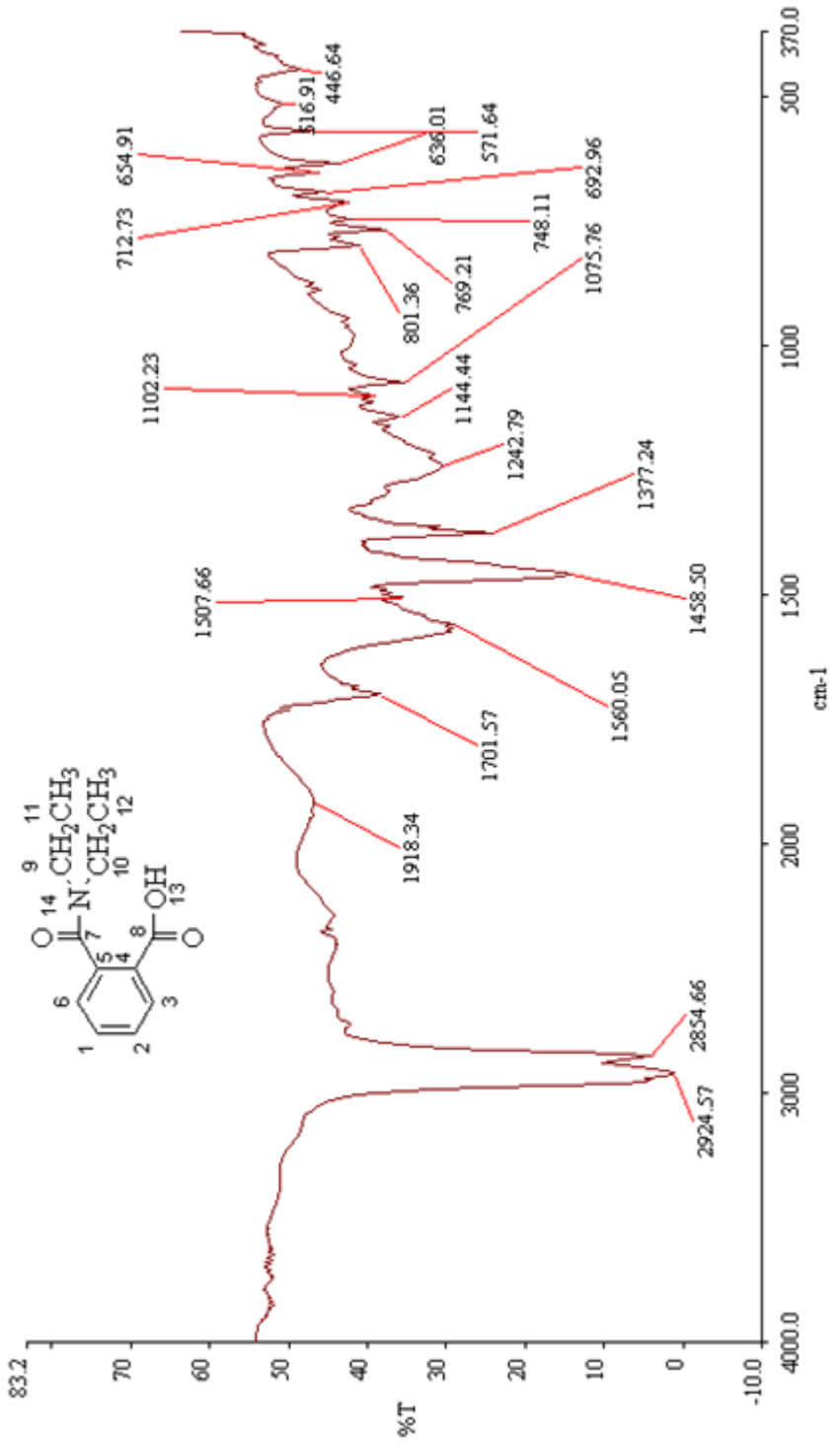
150
100
50
171.085
169.489
139.008
136.005
132.632
131.184
128.535
126.659
77.321
77.000
76.679
42.899
38.859
13.445
12.030
10.846
C1 C5
C2
C3
C4
C6
C7
C8
C9 C10
C11 C12
OH
CH2CH3
CH2CH3


%T
cm-1
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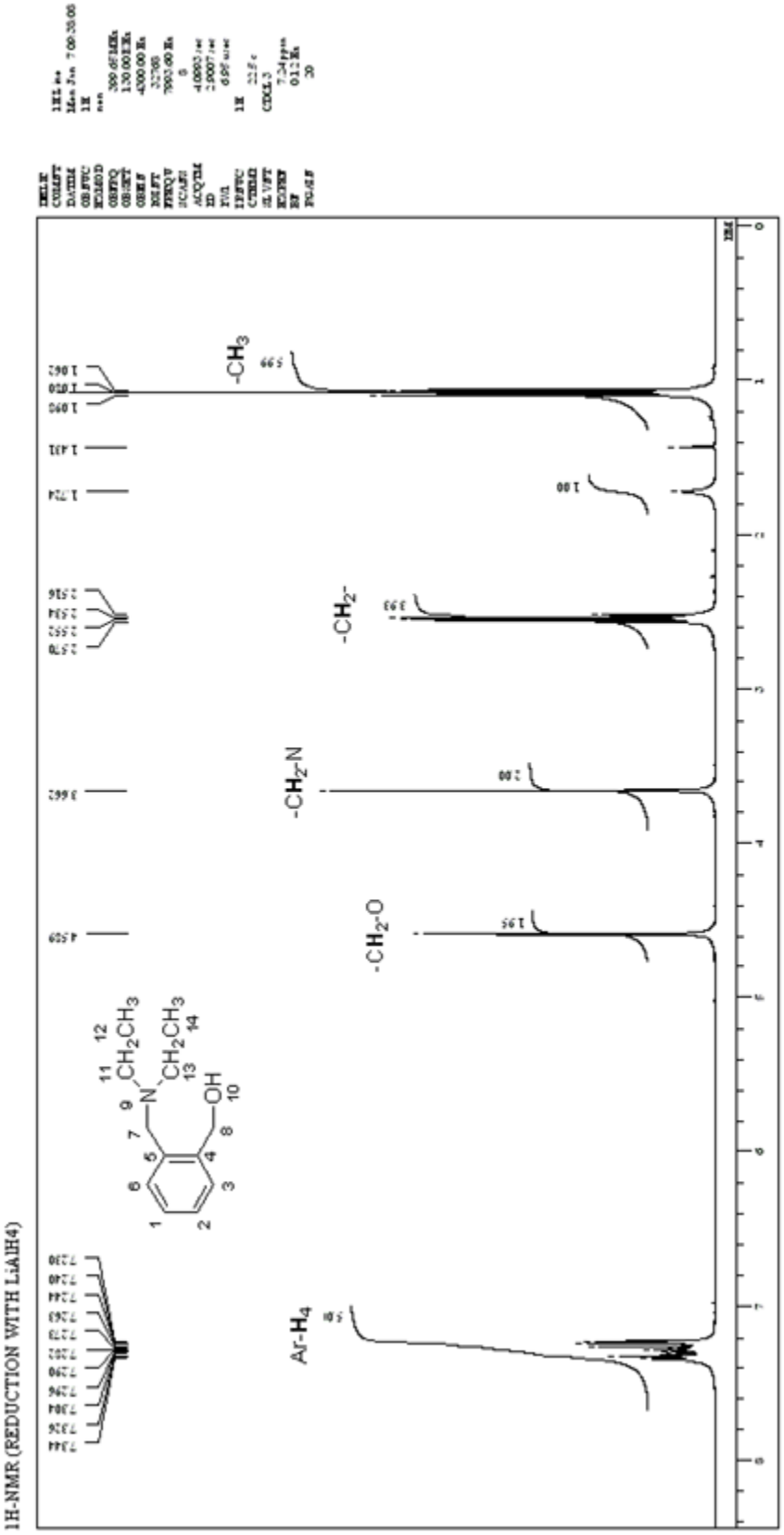
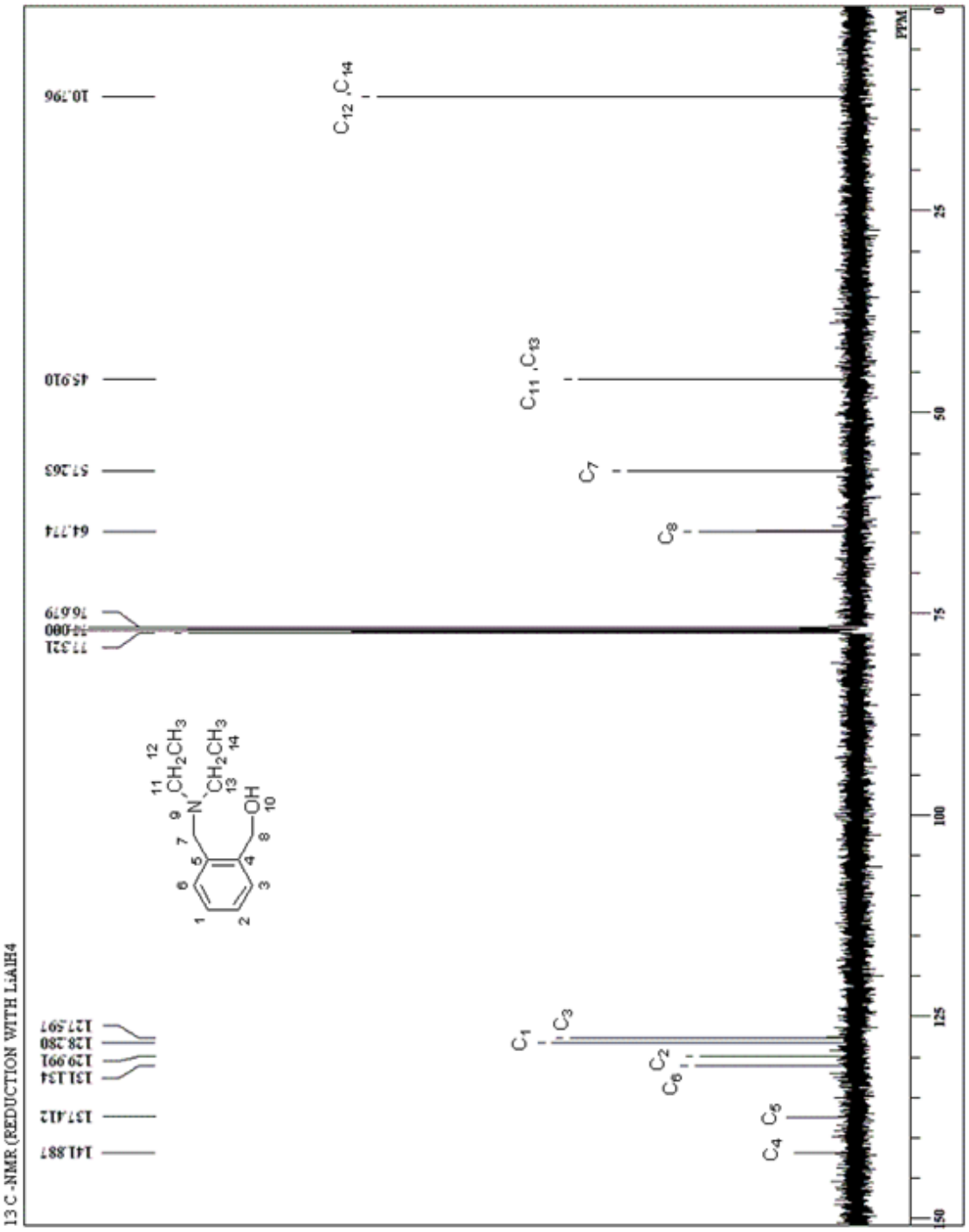
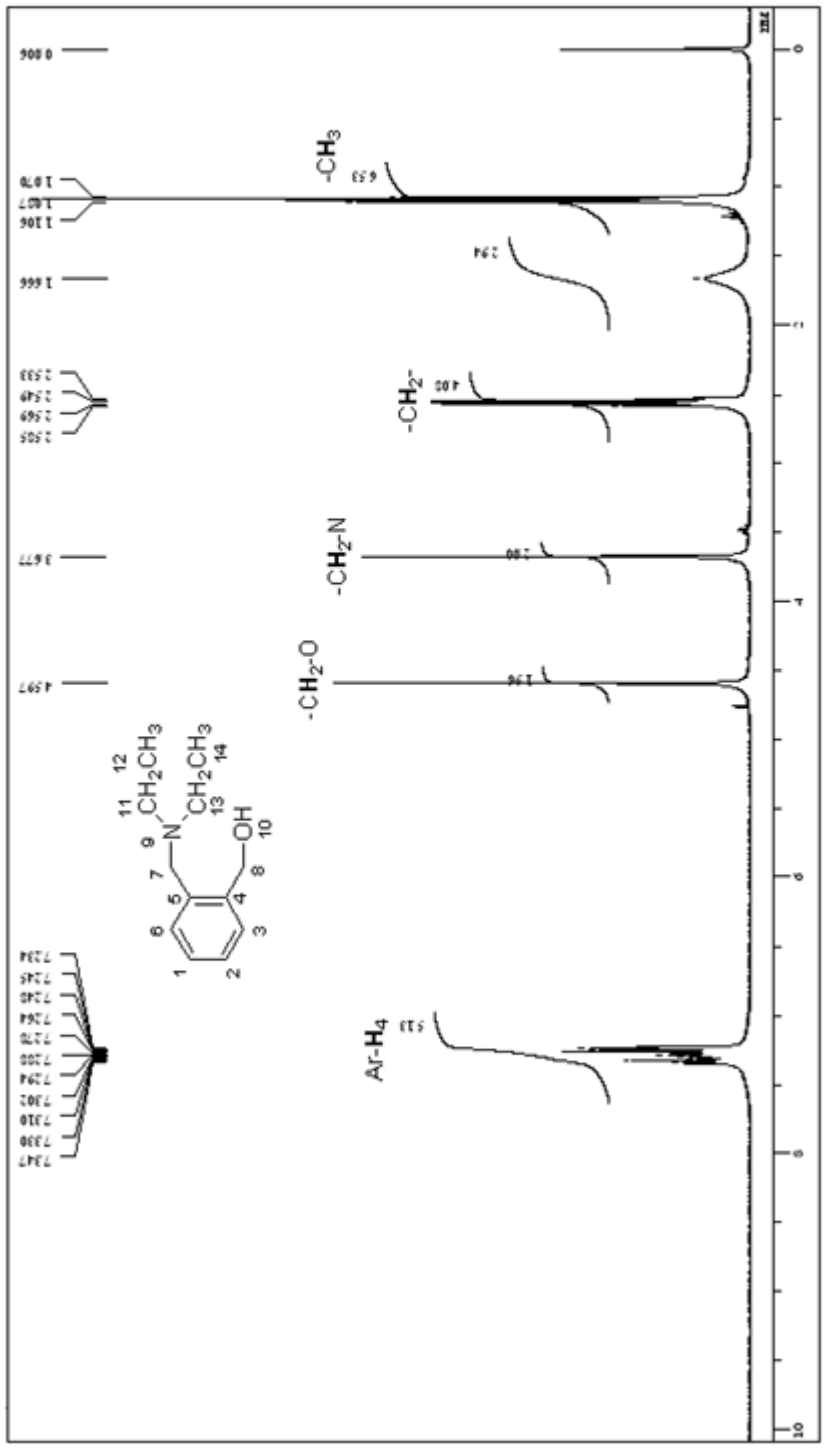
70
60
50
40
30
20
10
0
-10.0
4000.0
3000
2000
1500
1000
500
370.0
2924.57
2854.66
1918.34
1701.57
1560.05
1507.66
1458.50
1377.24
1242.79
1144.44
1102.23
1075.76
801.36
769.21
748.11
712.73
692.96
654.91
636.01
571.64
516.91
446.64
O
14
N
7
CH2CH3
9
11
CH2CH3
10
12
OH
13
O
8
5
4
6
3
1
2

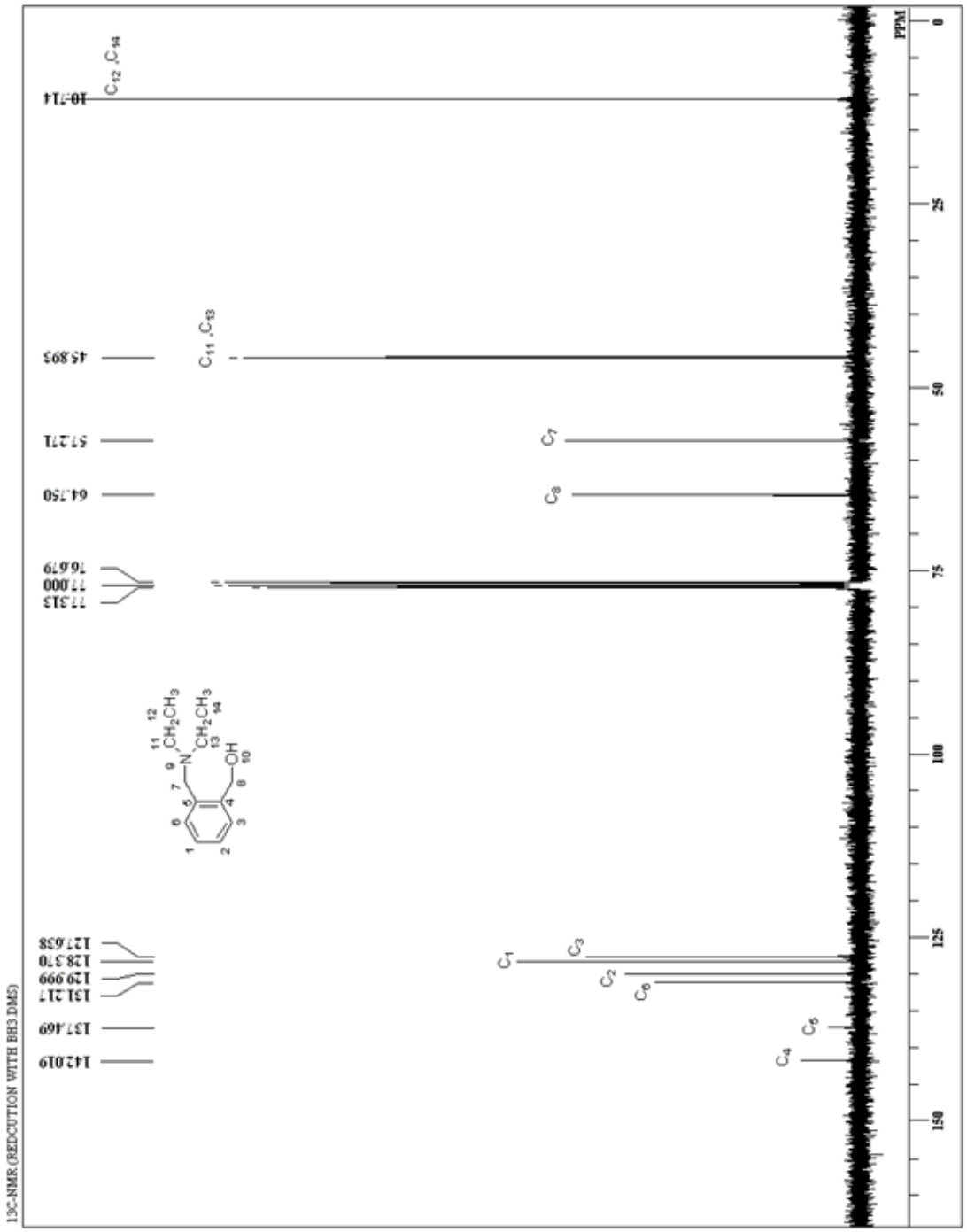
2. *N,N*-(Diethylmethylamino)benzyl Alcohol

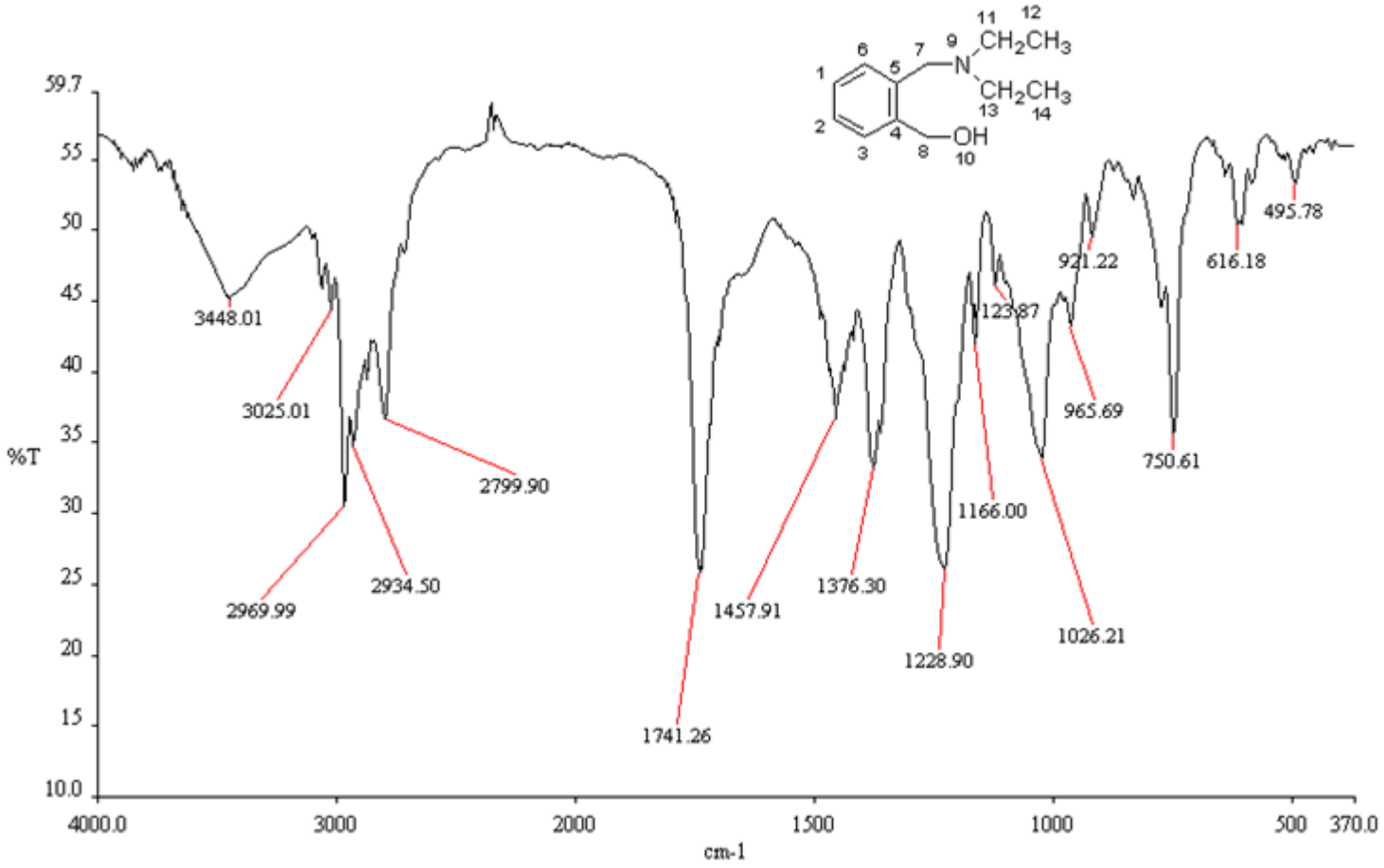



13 C -NMR (REDUCTION WITH LiAlH4
141.887
137.412
131.134
129.991
128.280
127.597
10.796
45.910
51.265
64.174
76.679
77.080
77.521
C12 ,C14
C11 ,C13
C7
C8
C1
C3
C2
C6
C5
C4
PPM
0
25
50
75
100
125
150

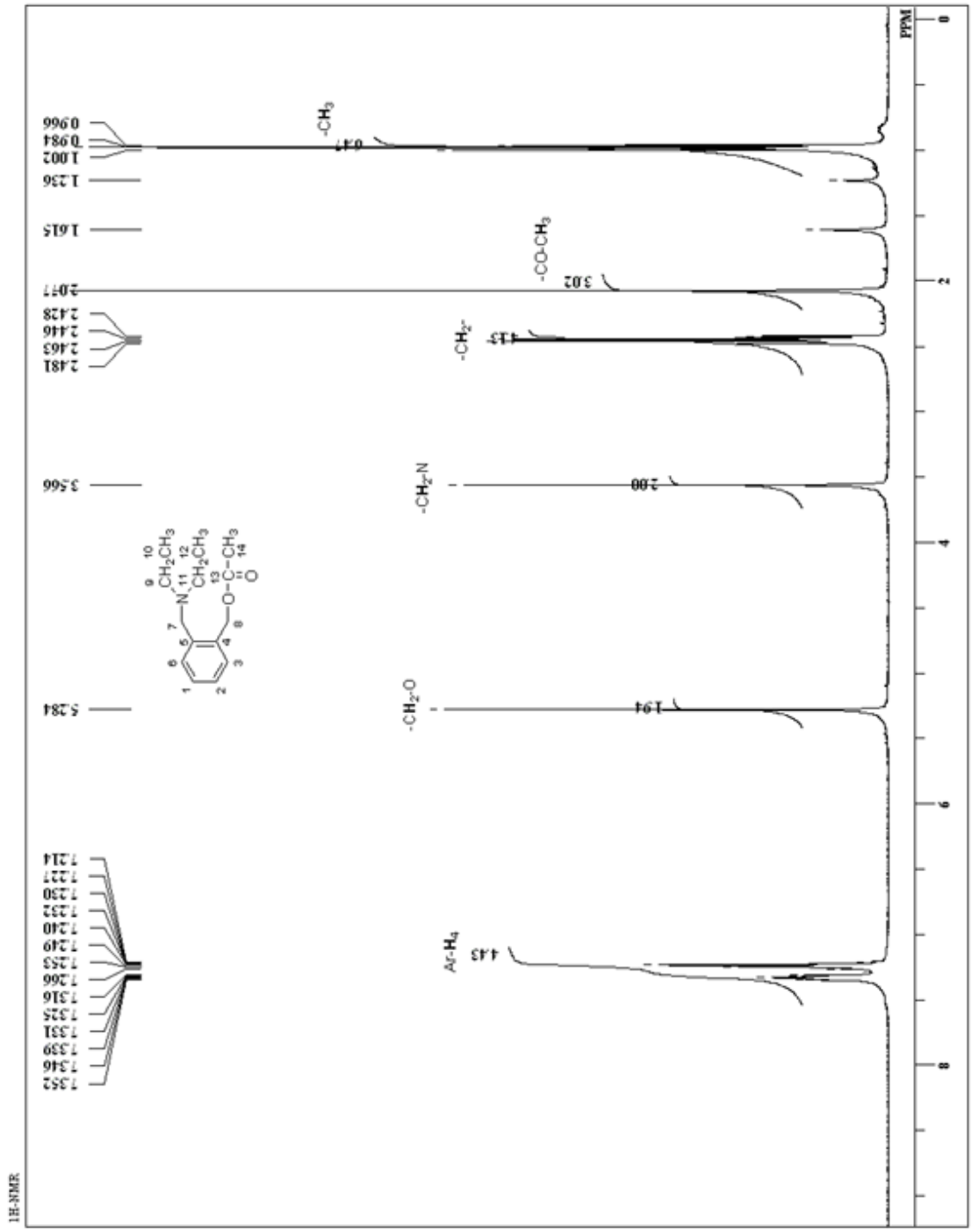
1H-NMR (REDUCTION WITH BH3.DMS

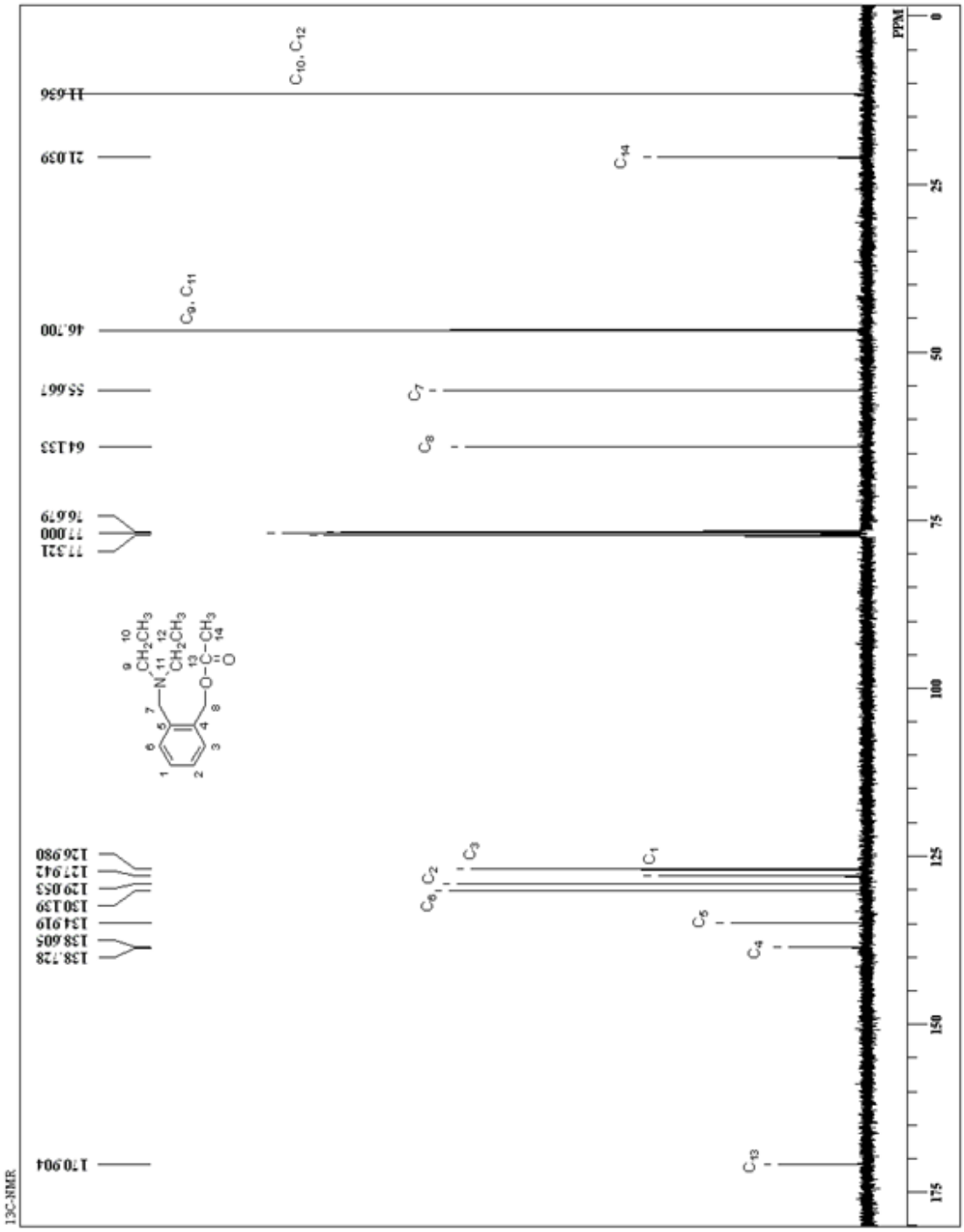


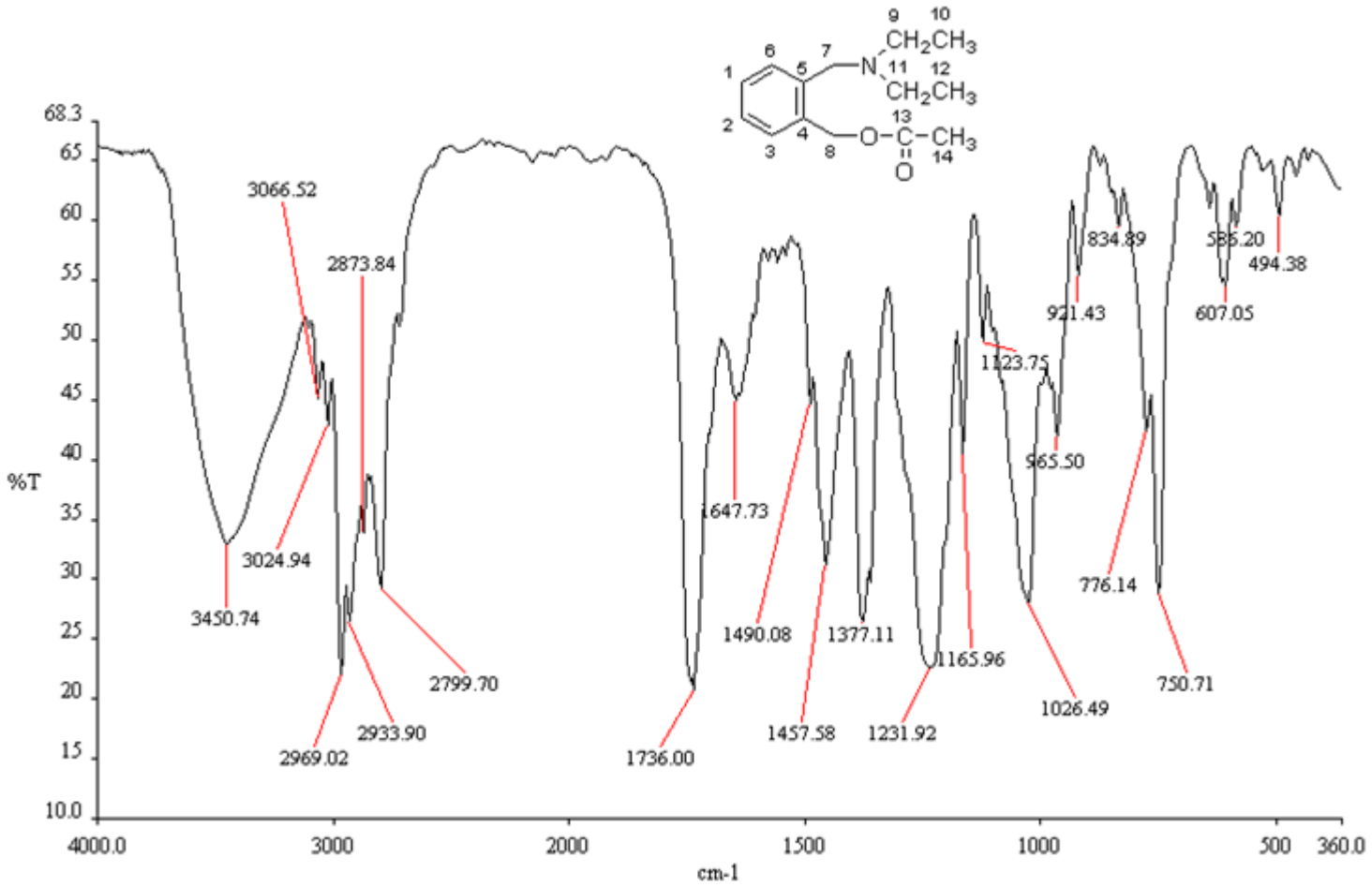

13C-NMR (REDCUTION WITH BH3.DMS)
PPM
0
25
50
75
100
125
150
10.714
45.895
51.271
64.750
76.679
77.000
77.515
142.019
137.469
131.217
129.999
128.570
127.658
C12 ,C14
C11 ,C13
C7
C8
C1
C3
C2
C6
C5
C4
CH2CH3
CH2CH3
OH


59.7
55
50
45
40
35
30
25
20
15
10.0
%T
4000.0
3000
2000
1500
1000
500
370.0
cm-1
3448.01
3025.01
2969.99
2934.50
2799.90
1741.26
1457.91
1376.30
1228.90
1166.00
1123.87
1026.21
965.69
921.22
750.61
616.18
495.78
CH2CH3
CH2CH3
N
OH

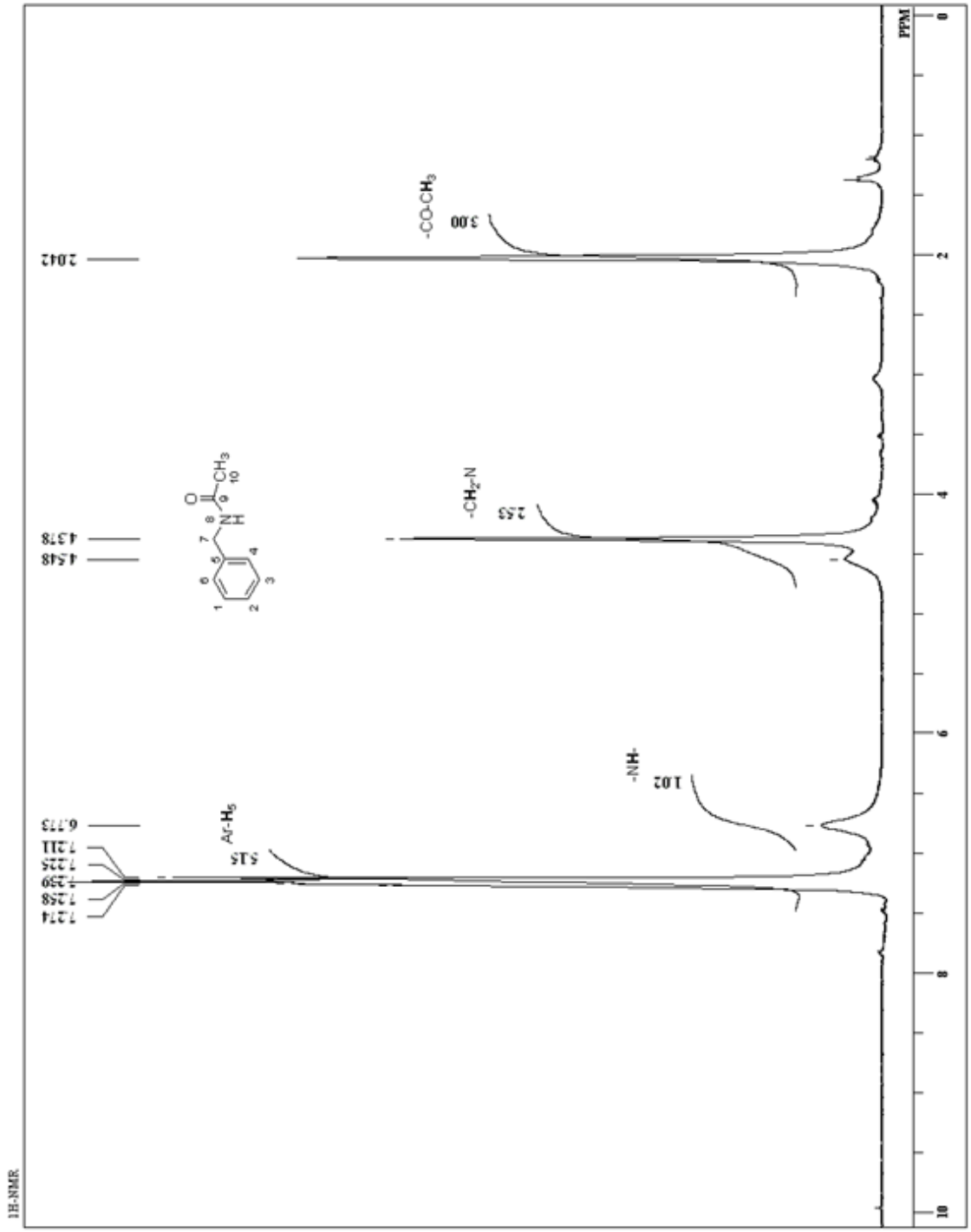
3. 2 – ((Diethylamino)methyl)benzyl Acetate

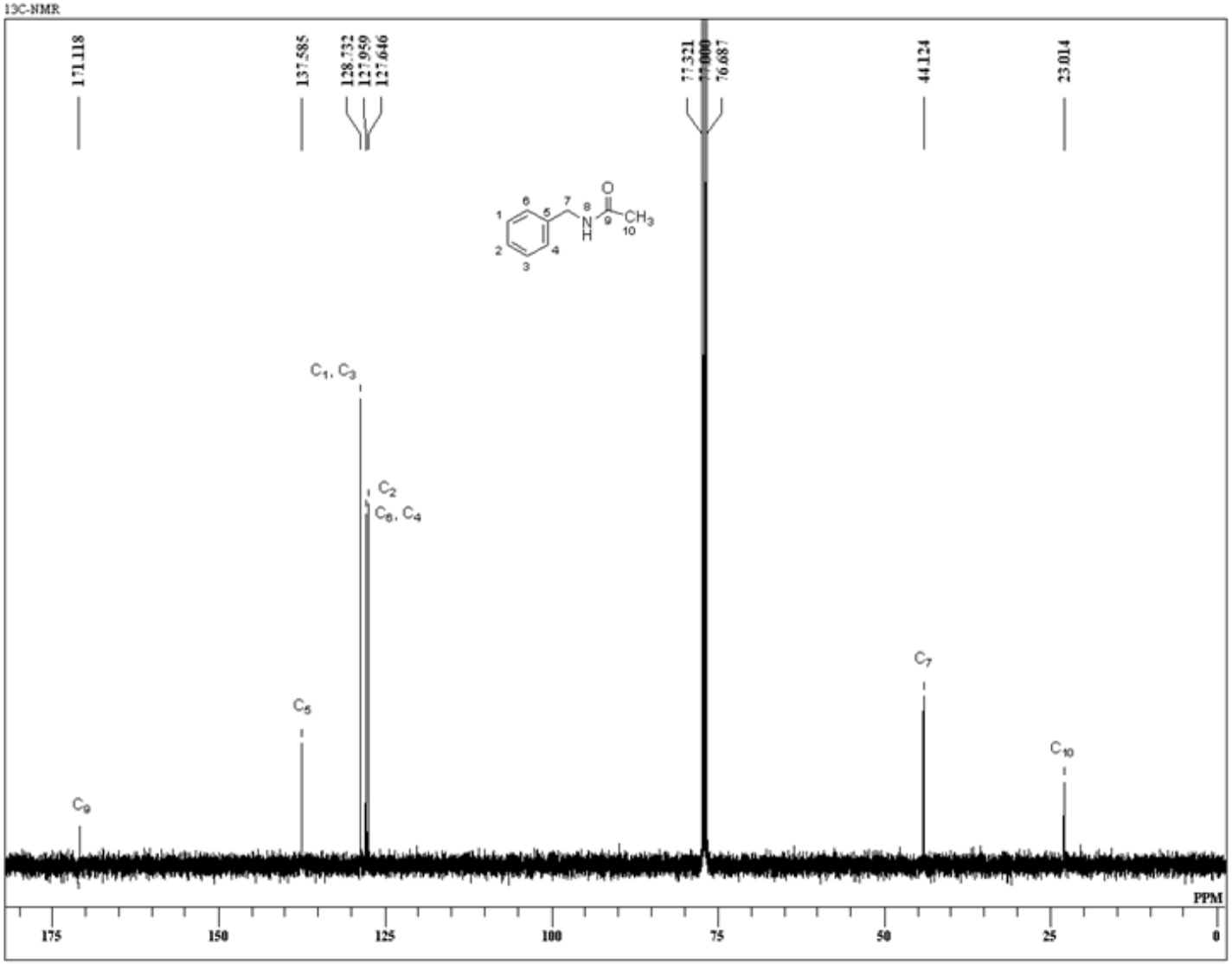


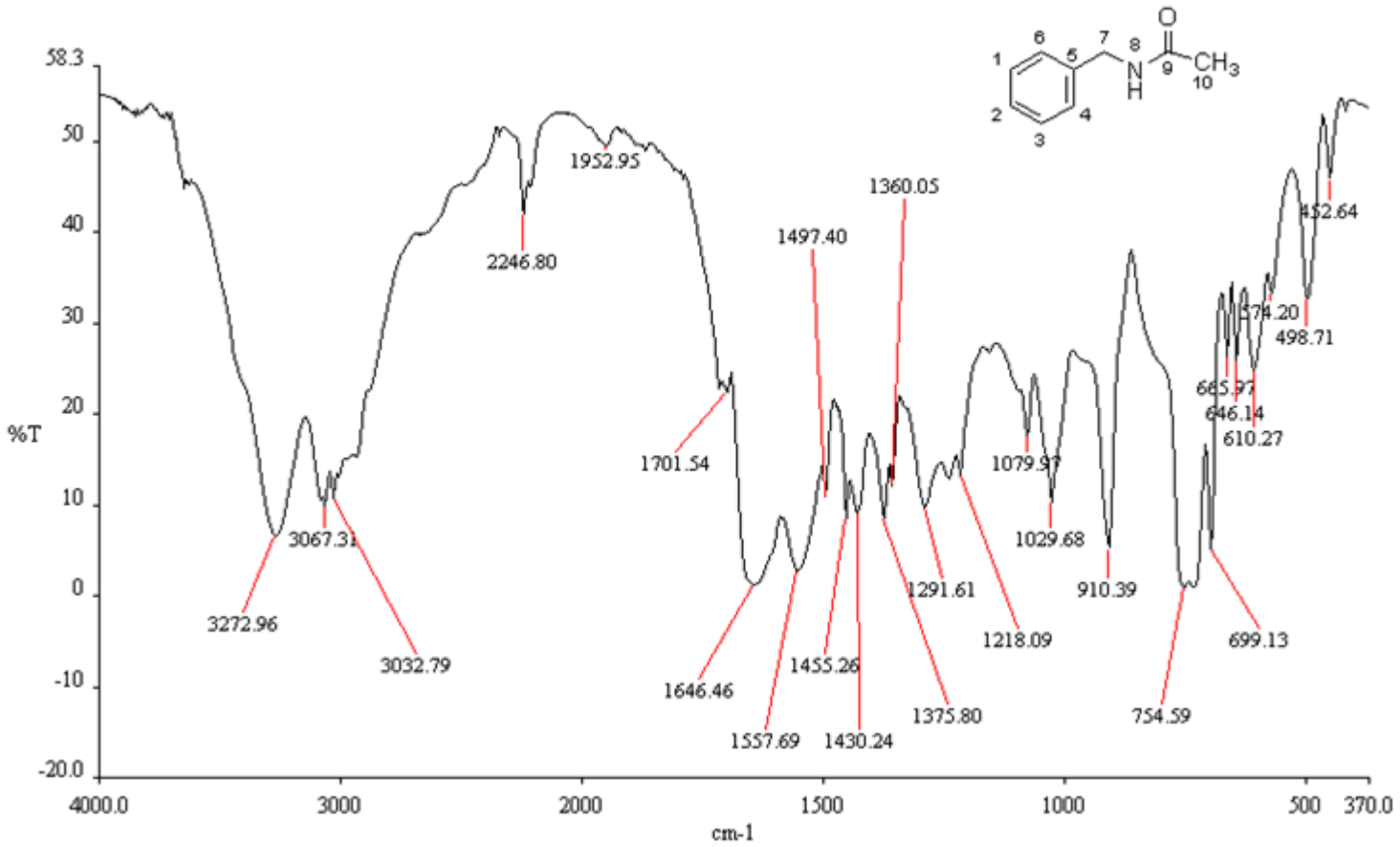

13C-NMR
PPM
0
25
50
75
100
125
150
175
11.636
21.039
46.700
55.667
64.135
76.679
77.000
77.321
126.980
127.942
129.055
130.139
134.919
138.605
138.728
170.904
C10, C12
C14
C9, C11
C7
C8
C3
C2
C6
C1
C5
C4
C13
9 10 CH2CH3
N 11
12 CH2CH3
13 C CH3
O 14
O
1 2 3 4 5 6 7 8


68.3
65
60
55
50
45
40
35
30
25
20
15
10.0
%T
4000.0
3000
2000
1500
1000
500
360.0
cm-1
3066.52
2873.84
3024.94
3450.74
2799.70
2933.90
2969.02
1736.00
1647.73
1490.08
1457.58
1377.11
1231.92
1165.96
1123.75
1026.49
965.50
921.43
834.89
776.14
750.71
607.05
535.20
494.38
1
2
3
4
5
6
7
8
9
10
11
12
13
14
N
O
O
CH2CH3
CH2CH3
CH3

4. *N*-Benzylacetamide




13C-NMR
171.118
137.585
128.732
127.959
127.646
77.321
77.000
76.687
44.124
23.014
C1, C3
C2
C6, C4
C5
C9
C7
C10
PPM
175
150
125
100
75
50
25
0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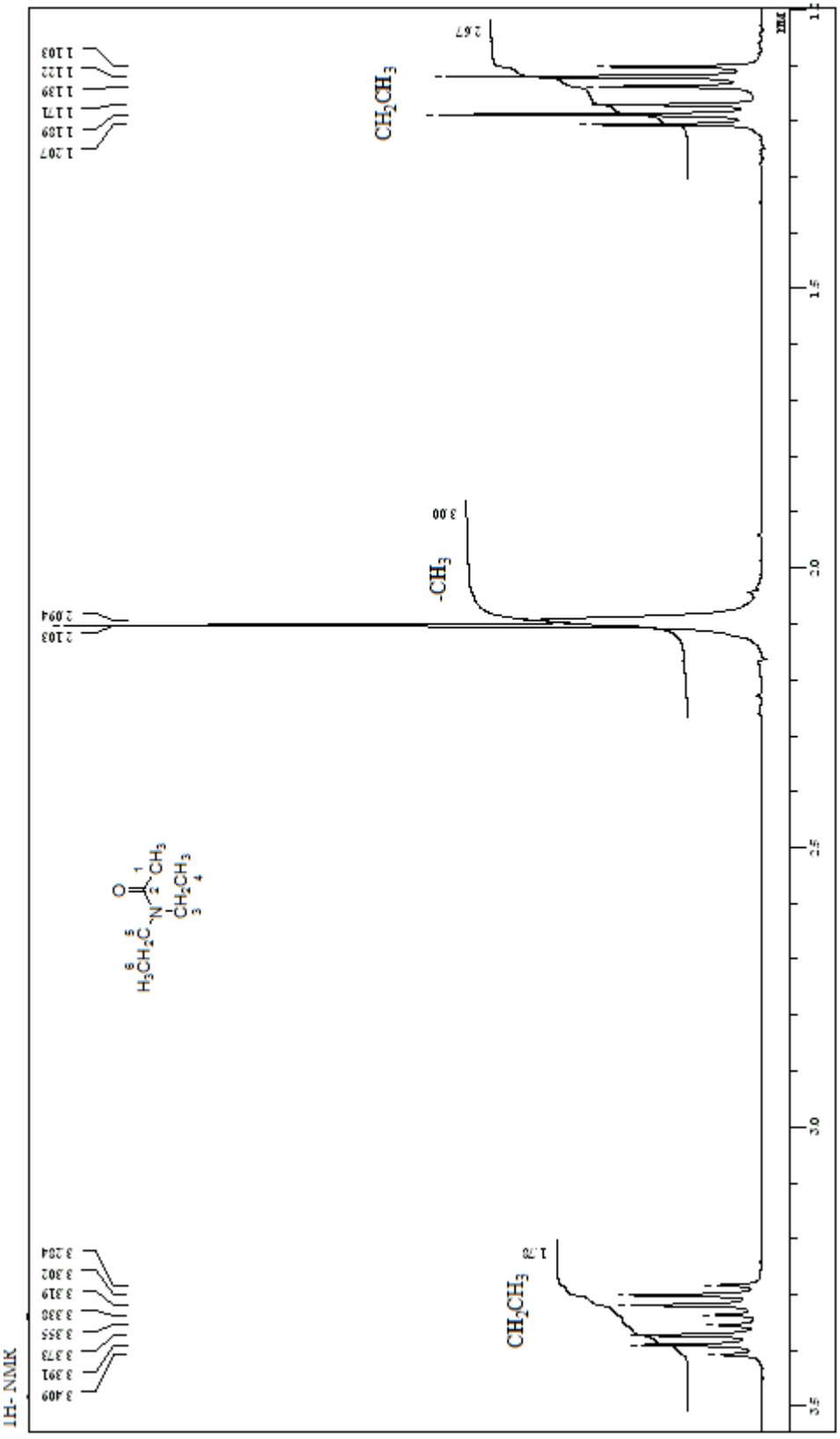
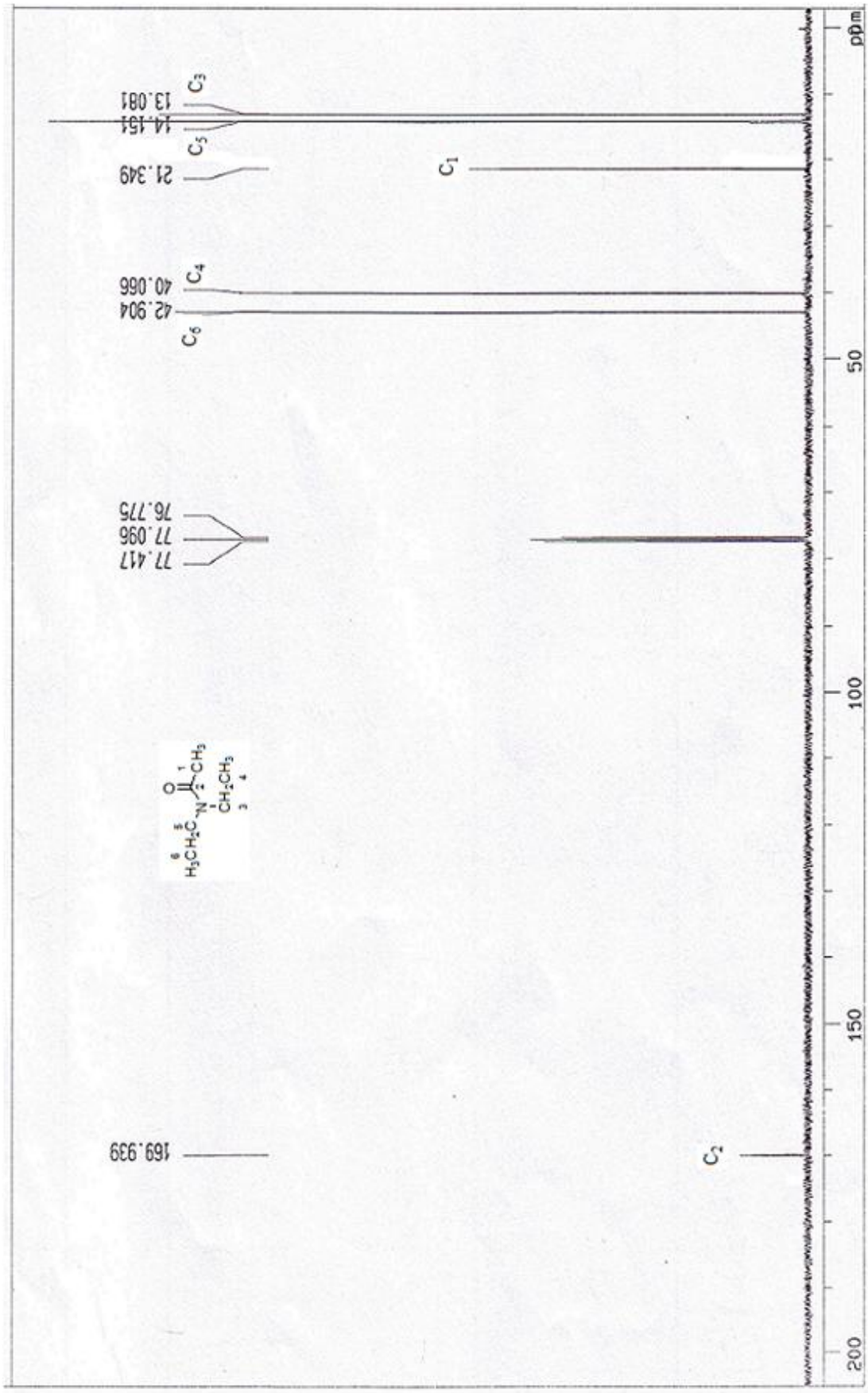
30
20
10
0
-10
-20.0
%T
4000.0
3000
2000
1500
1000
500
370.0
cm-1
3272.96
3067.31
3032.79
2246.80
1952.95
1701.54
1646.46
1557.69
1497.40
1455.26
1430.24
1360.05
1375.80
1291.61
1218.09
1079.97
1029.68
910.39
754.59
699.13
665.97
646.14
610.27
574.20
498.71
452.64
O
CH3
N
H
1
2
3
4
5
6
7
8
9
10

5. *N,N*-Diethylacetamide

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150
100
50
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77.417
77.096
76.775
42.904
40.066
21.349
14.151
13.081
C5
C1
C6
C4
C5
C3
O
N
CH2CH3
H3CH2C
CH3