

Supplementary Information

Table 1 Hydrogen bond data for salts of aliphatic amines

Compound	Donor (D)	Acceptor (A)	D...A/Å	D-H/Å	H...A/Å	D-H...A/°
1	N1A	O1	2.624(1)	0.98(1)	1.67(2)	163(1)
	N1A	O2 ^a	2.735(1)	0.92(2)	1.83(2)	169(1)
2a	N1A	O2 ^b	2.686(2)	0.92(1)	1.78(1)	169(1)
	N1A	O1	2.631(2)	0.97(1)	1.69(1)	166(1)
	N1B	O2 ^c	2.694(2)	0.96(1)	1.76(1)	161(1)
2b	N1B	O1 ^c	2.665(2)	0.97(1)	1.72(1)	165(1)
	N1A	O2 ^c	2.678(2)	0.89(1)	1.80(1)	167(1)
	N1A	O1 ^d	2.728(2)	0.95(1)	1.78(1)	167(1)
	N1B	O2	2.663(2)	1.00(1)	1.68(1)	168(1)
	N1B	O1 ^e	2.729(2)	0.93(1)	1.81(1)	171(1)

^a: 1-x, -y, -z

^b: 2-x, 1-y, 1-z

^c: 2-x, 1-y, -z

^d: 1-x, 1-y, -z

^e: 1-x, -y, 1-z

Table 2 Hydrogen bond data for salts of cyclic amines

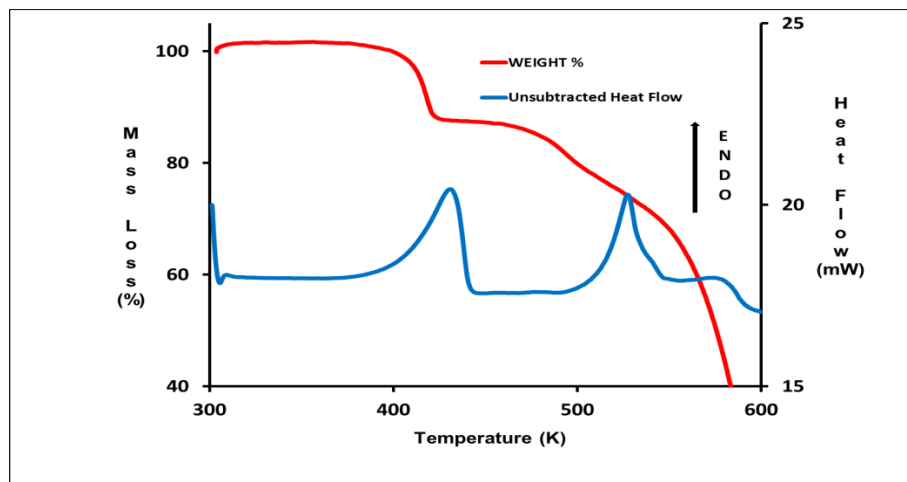
Compound	Donor (D)	Acceptor (A)	D...A/Å	D-H/Å	H...A/Å	D-H...A/°
3	N1B	O1	2.752(2)	0.94(3)	1.82(3)	174(2)
	N1B	O4	2.708(2)	0.82(3)	1.93(3)	159(2)
	N1B	O1 ^f	2.787(2)	0.82(3)	2.01(3)	155(2)
	N1C	O2	3.052(3)	0.92(3)	2.17(3)	162(2)
	N1C	O3	2.717(3)	0.92(3)	1.80(3)	177(2)
	N1C	O2 ^g	2.768(3)	0.92(2)	1.86(2)	169(2)
	N1D	O3 ^h	2.949(3)	0.94(3)	2.01(3)	173(2)
	N1E	O5	2.781(6)	0.91	1.87	176
	N1E	O2	2.833(5)	0.91	2.15	131
	N1E	O1 ^g	2.675(7)	0.91	1.77	174
	O5	N1A	2.736(3)	0.85	1.90	167
	O5	O4	2.820(3)	0.85	1.99	165
4	N1A	O1 ⁱ	2.743(1)	0.93(1)	1.83(1)	170(1)
	N1A	O1	2.777(1)	0.92(1)	1.88(1)	163(1)
	N1B	O2 ⁱ	2.734(1)	0.92(1)	1.84(1)	164(1)
	N1B	O2	2.804(1)	0.92(1)	1.90(1)	170(1)
	O3	O1	2.757(1)	0.97(1)	1.80(1)	167(1)
	O4	O2	2.928(2)	0.99(1)	1.96(1)	165(1)
	O4	O1 ⁱ	2.832(2)	0.91(1)	1.93(1)	176(1)

^f: 1-x, -y, 1-z

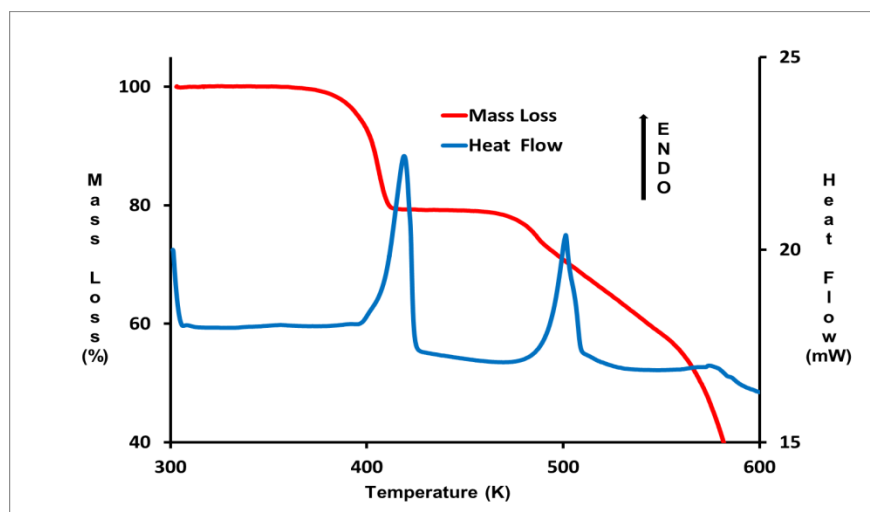
^g: 1-x, 1-y, 1-z

^h: -x, -y, -z

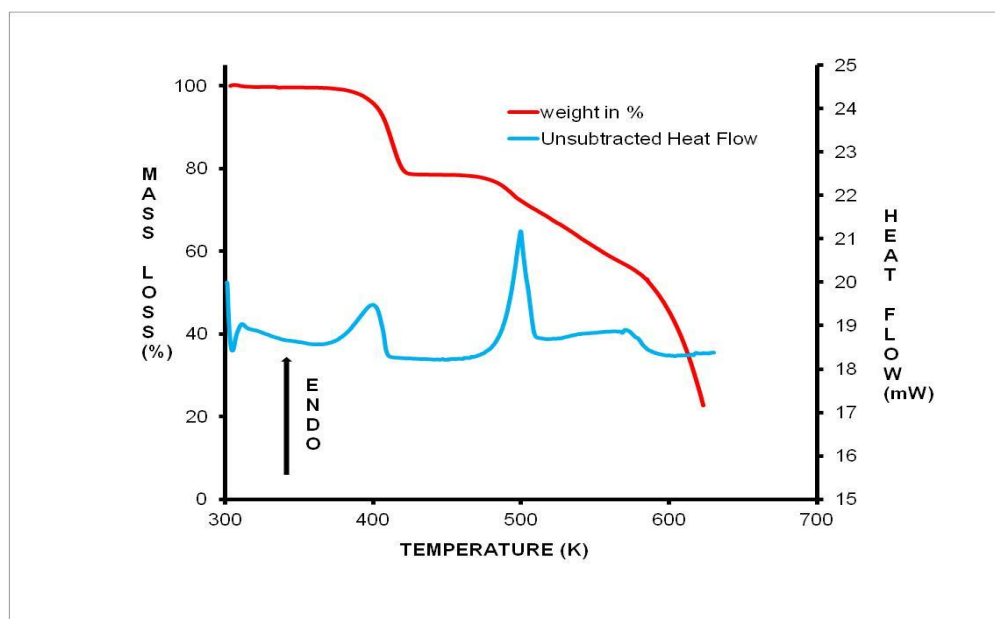
Thermal Analysis Results



TG and DSC of 1, $(\text{BNDA}^{2-})(2\text{DEA}^+)$



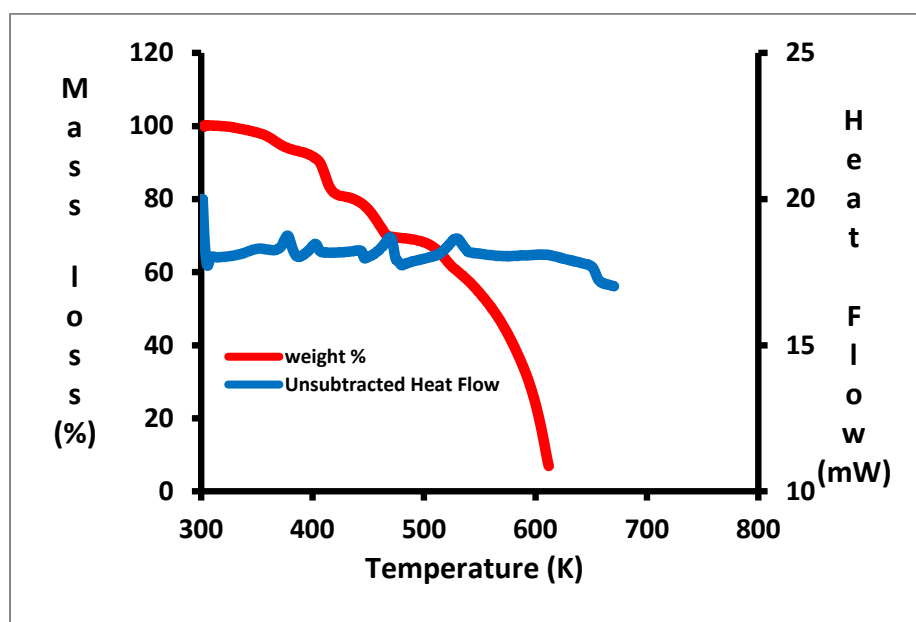
TG and DSC of 2a, $(\text{BNDA}^{2-})(2\text{DBA}^+)$



TG and DSC of 2b, $(\text{BNDA}^{2-})(2\text{DBA}^+)$



TG and DSC of 3, $(\text{BNDA}^{2-})(3\text{CHA}^+)(\text{C}_7\text{NO}_2\text{H}_{11}^-) \cdot \text{CHA} \cdot \text{H}_2\text{O}$



TG and DSC of 4, (BNDA²⁻)(2DCHA⁺)•CH₃OH•H₂O

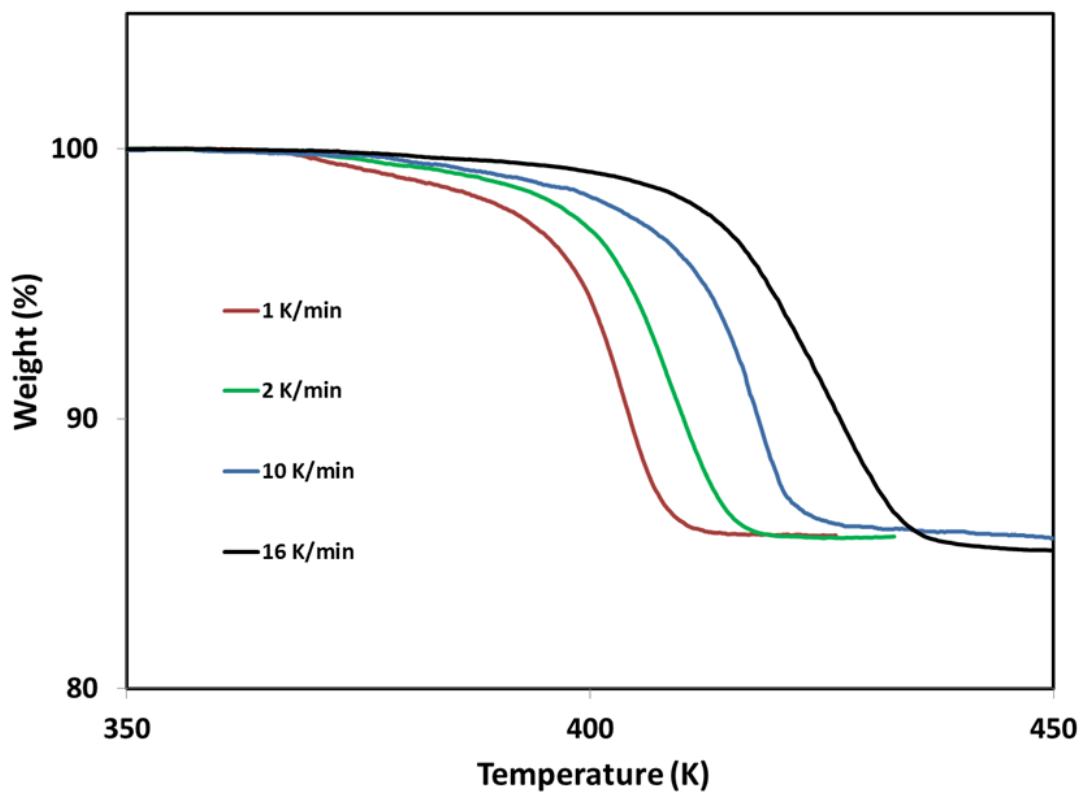


Fig 9a Non-isothermal TG curves for **1**.

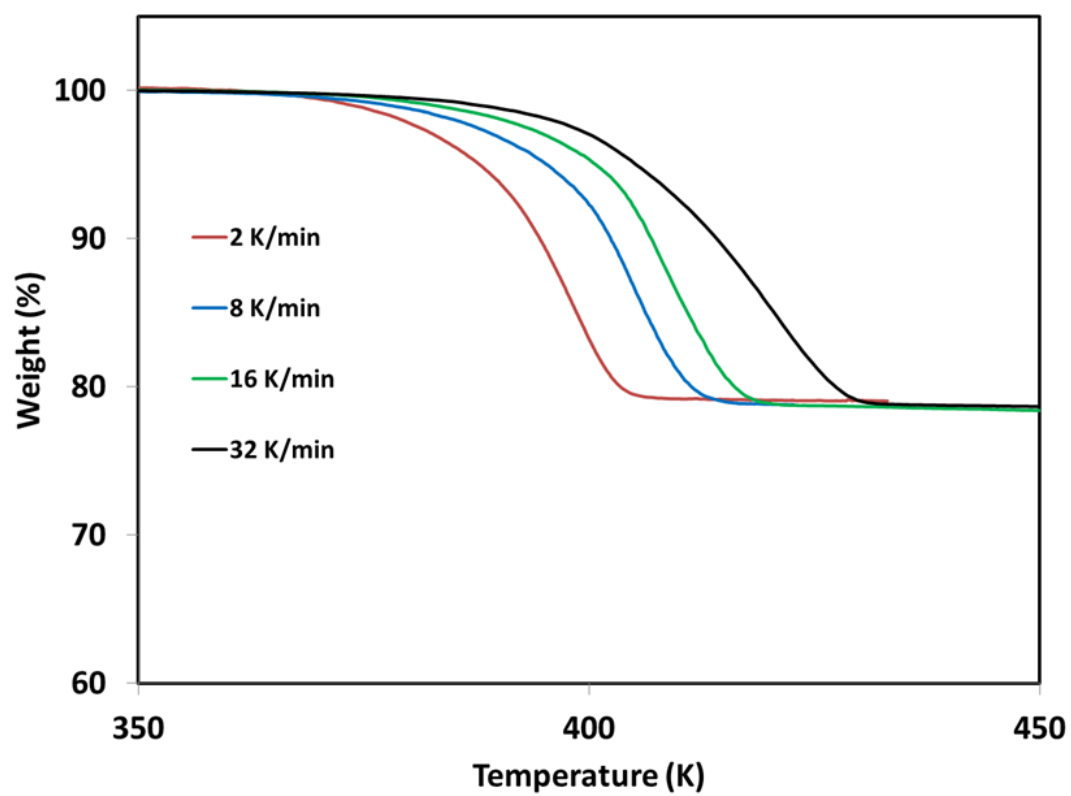


Fig 9b Non-isothermal TG curves for **2a**.

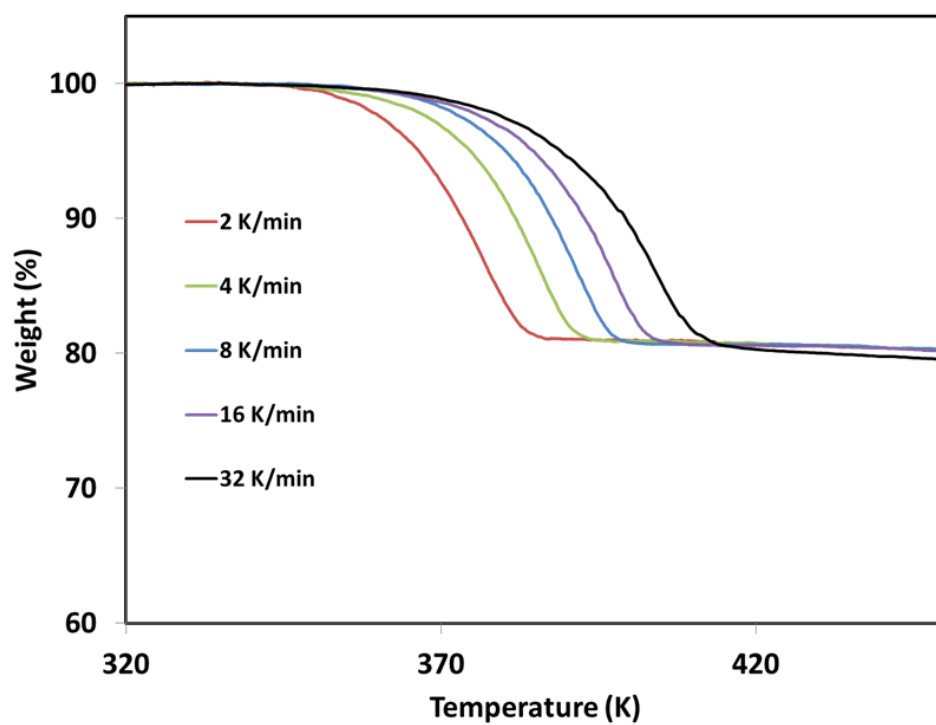


Fig 9c Non-isothermal TG curves for **2b**.

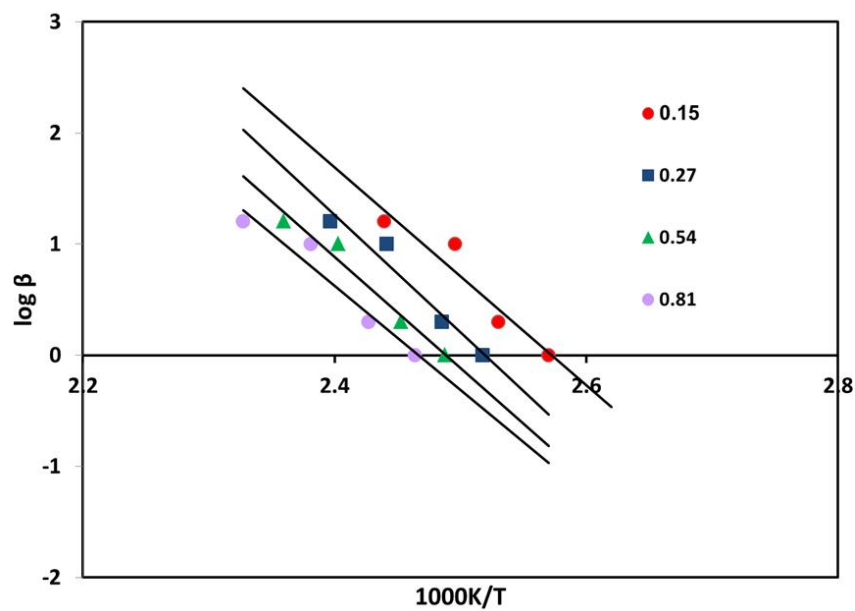


Fig 9d Plot of $\log \beta$ vs the reciprocal of the temperature for **1**

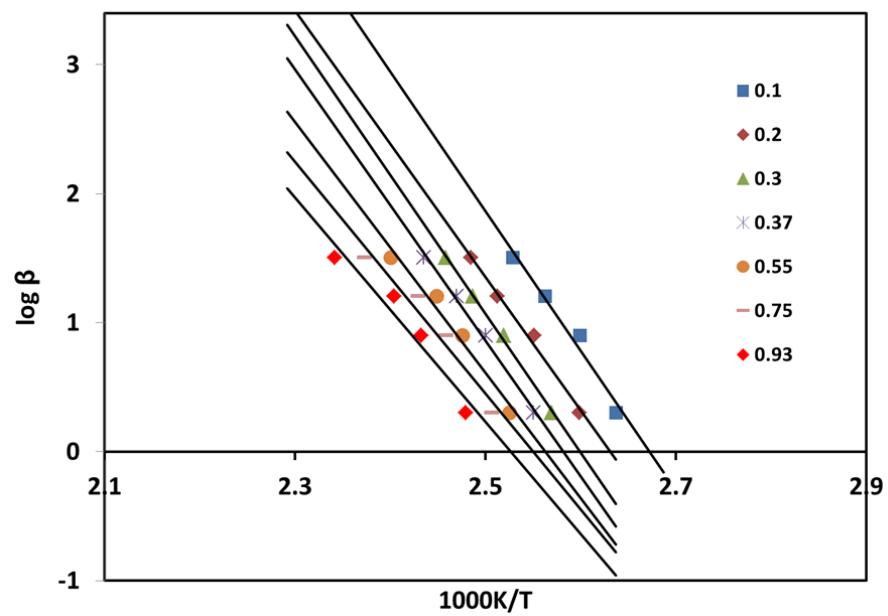


Fig 9e Plot of $\log \beta$ vs the reciprocal of the temperature for **2a**

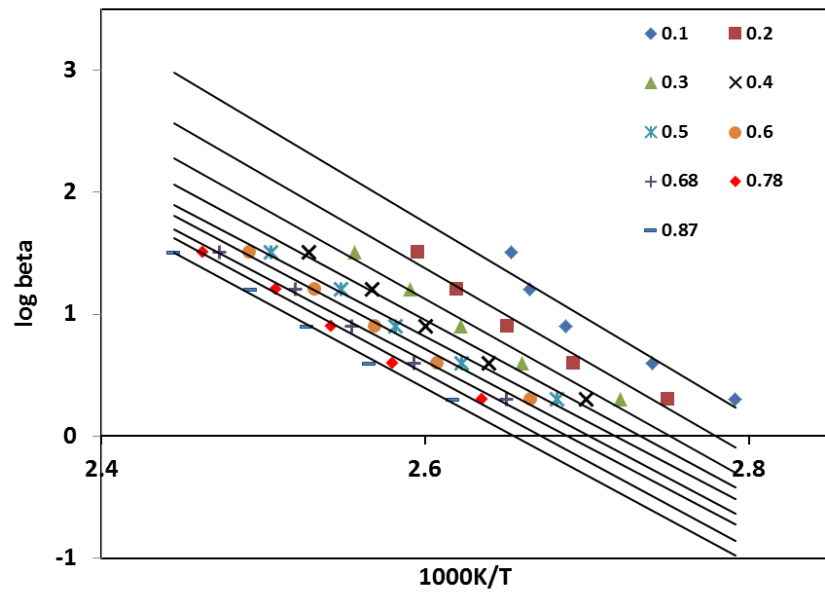


Fig 9f Plot of $\log \beta$ vs the reciprocal of the temperature for **2b**