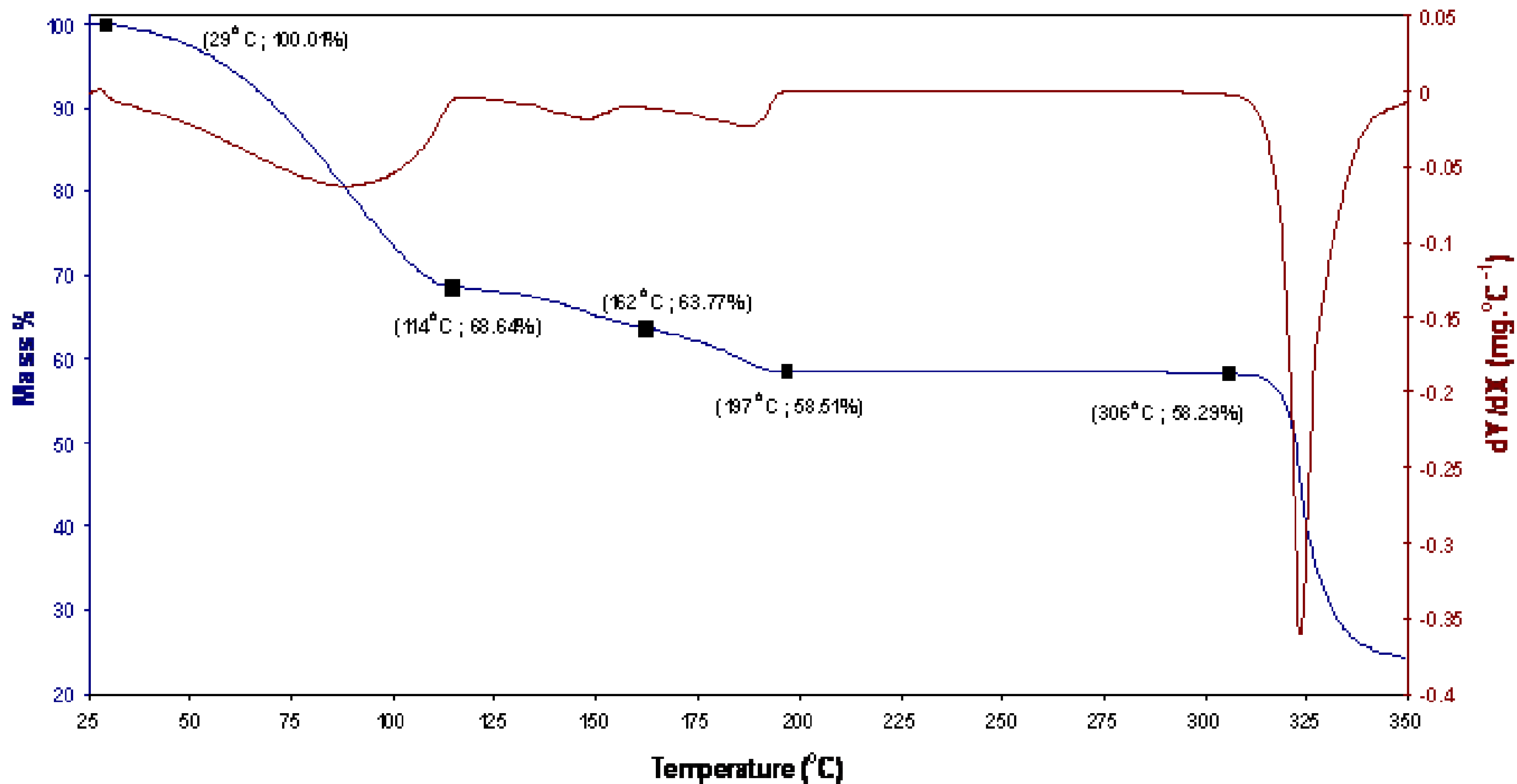


**Doubly-linked 1D coordination polymers derived from 2 : 2
metallamacrocyclic Ni(II) complexes with bipodal
acylthiourea and *exo*-bidentate *N*-donor bridging ligands:
toward potentially selective chemical sensors?**

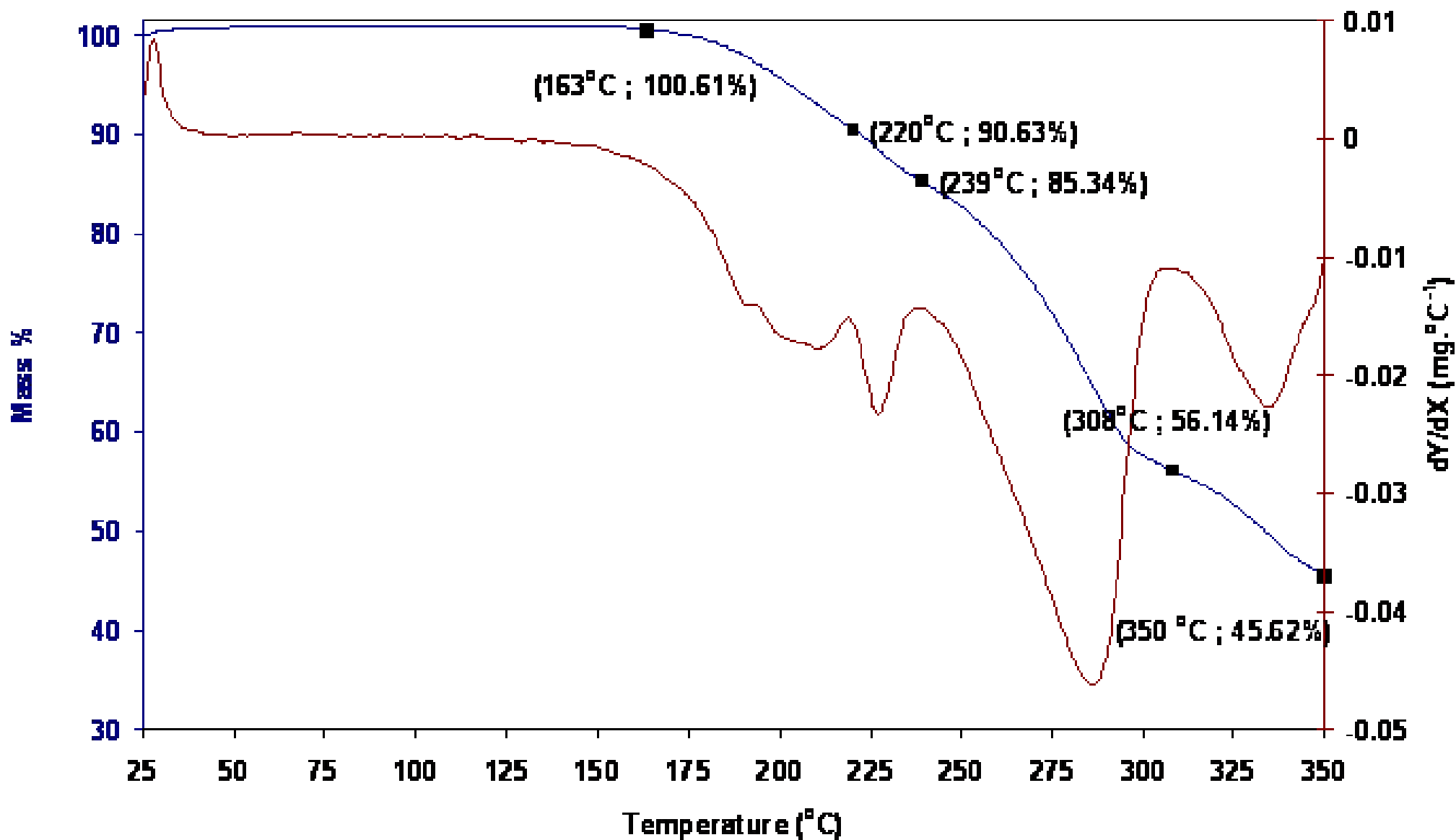
Oren Hallale ^a, Susan A. Bourne ^{*a} and Klaus R. Koch ^{*b}

^a Department of Chemistry, University of Cape Town, Rondebosch 7701, South Africa.
E-mail: xraysue@science.uct.ac.za; Fax: 27 21 689 7499; Tel: 27 21 650 2653

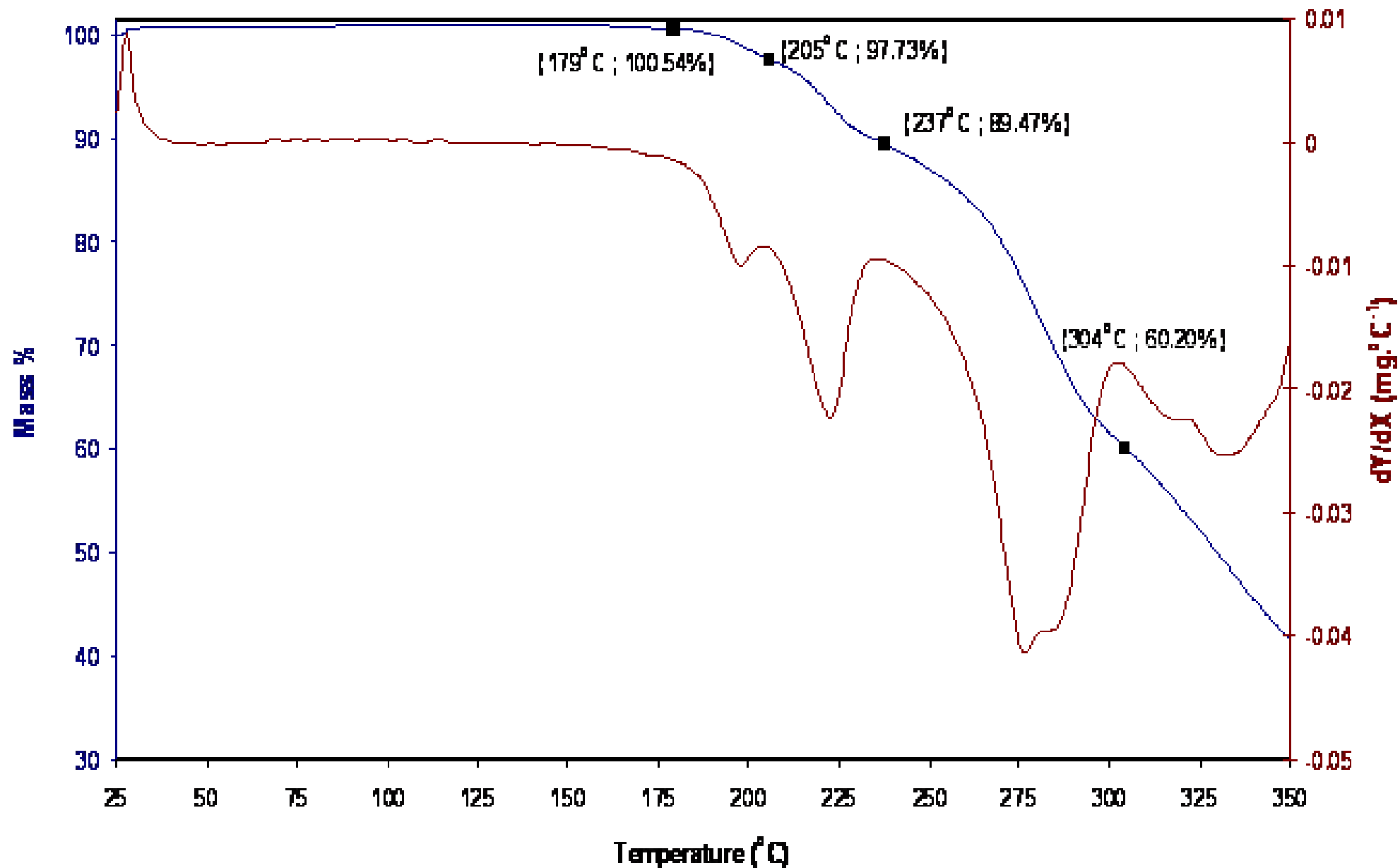
^b Department of Chemistry, University of Stellenbosch, Private Bag XI, Matieland 7602,
South Africa. E-mail: krk@sun.ac.za; Fax: 27 21 808 3360; Tel: 27 21 808 3020



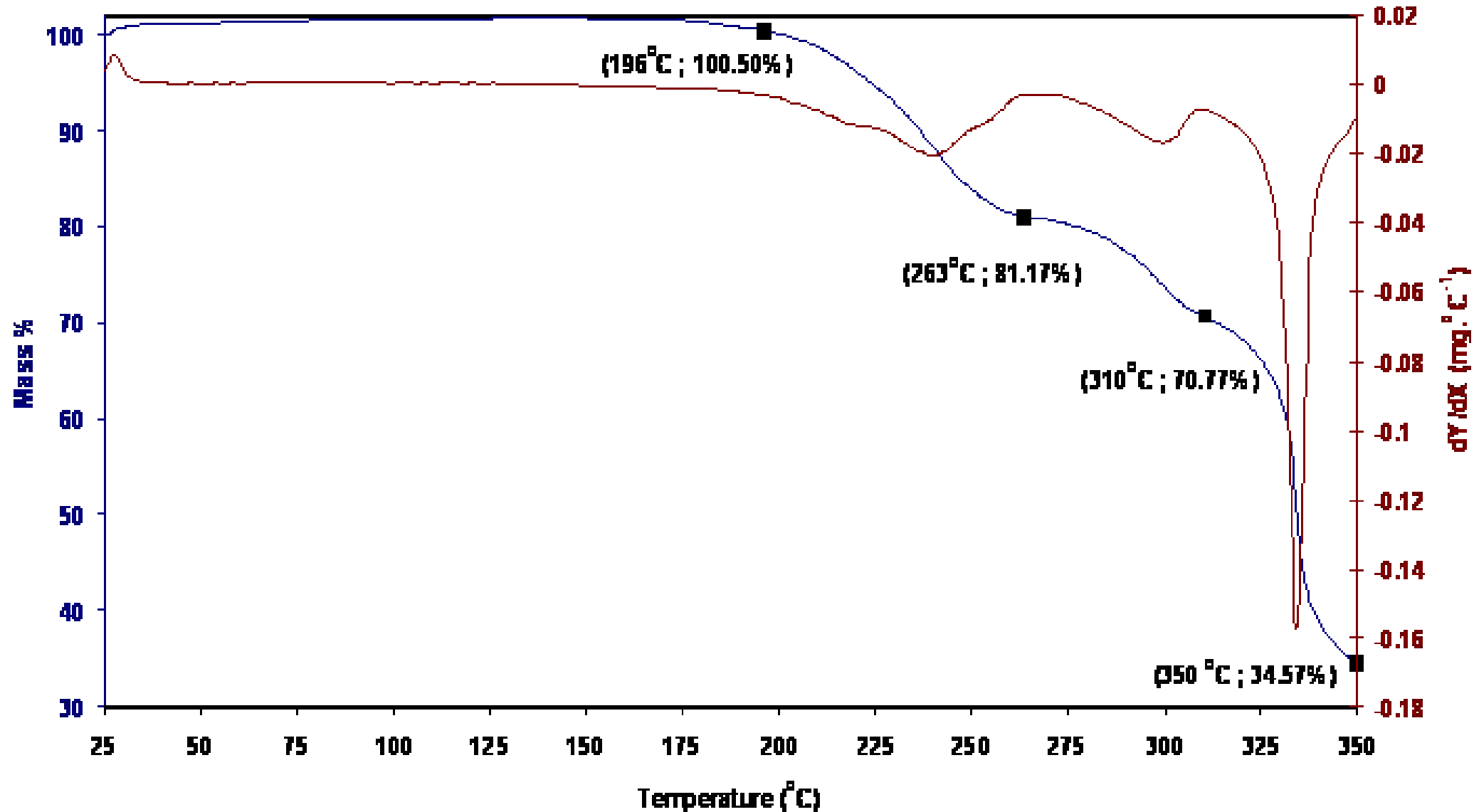
TGA trace for $\{cis-[Ni(I-Et-S,O)(pyra-N,N')]_2\}_n$ (**2**) with 1st derivative curve indicated



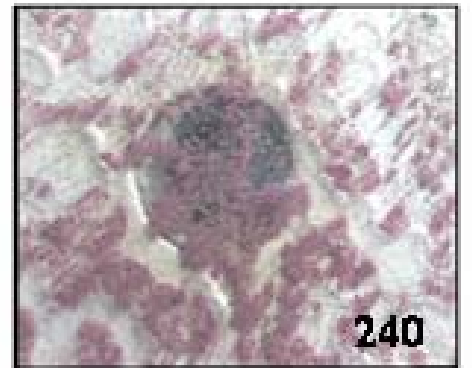
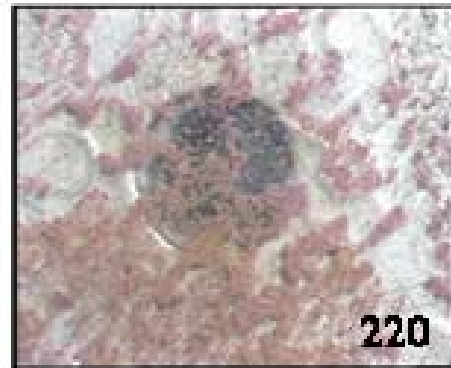
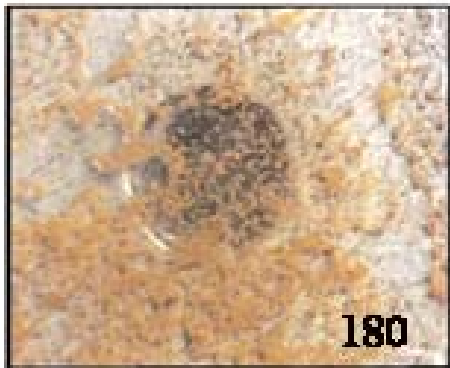
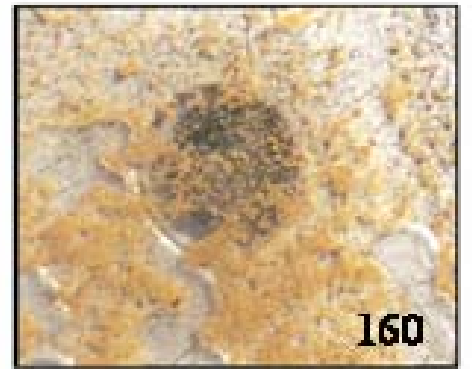
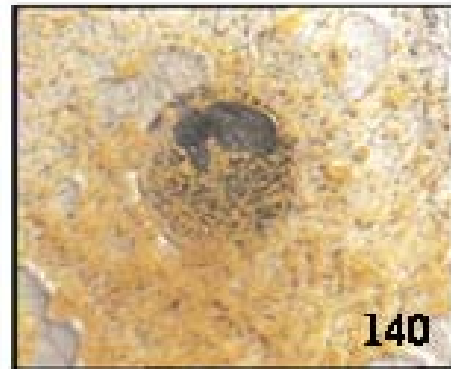
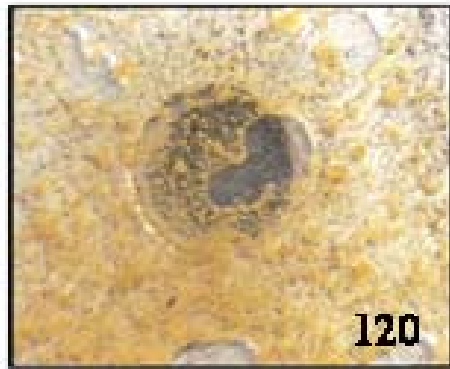
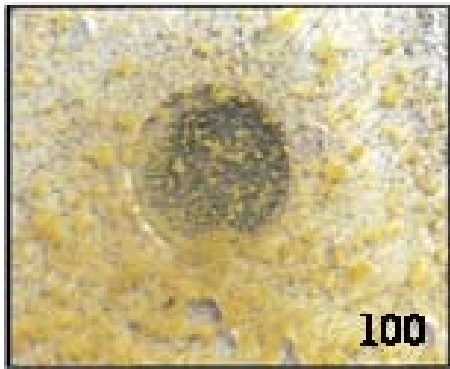
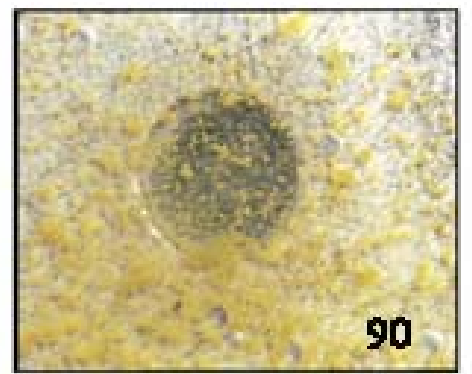
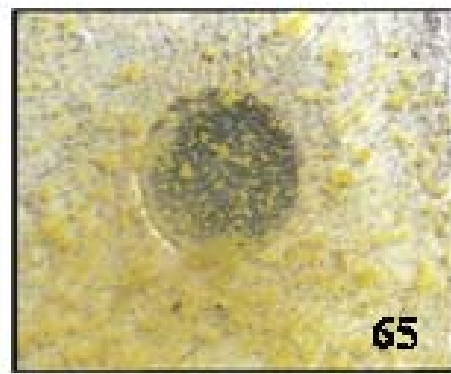
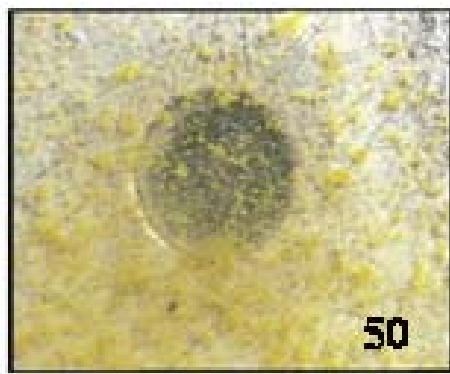
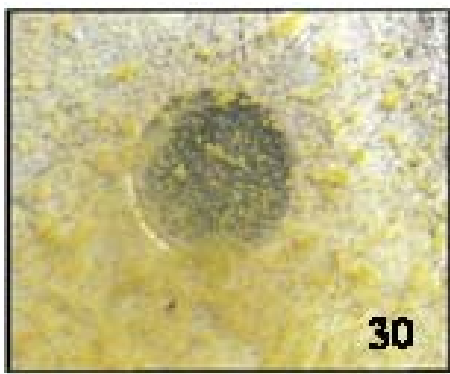
TGA trace for $\{cis-[Ni(I-Et-S,O)(bipy-N,N')]_2\}_n$ (3) with 1st derivative curve indicated.



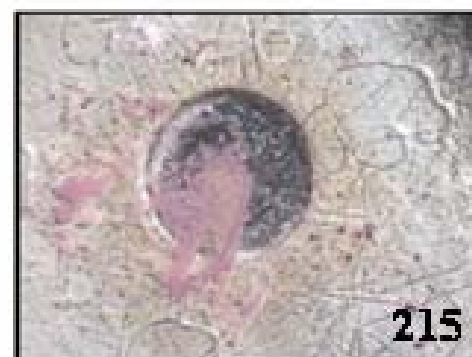
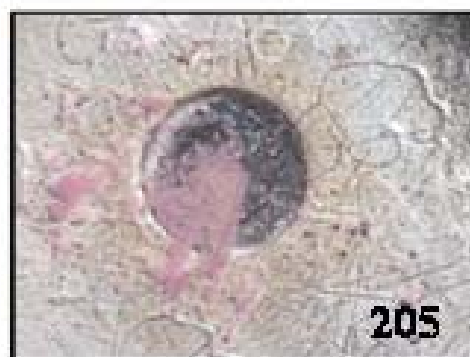
TGA trace for $(cis-[Ni(I-Et-S,O)(BPE-N,N')]_2)_n$ (4) with 1st derivative curve indicated.



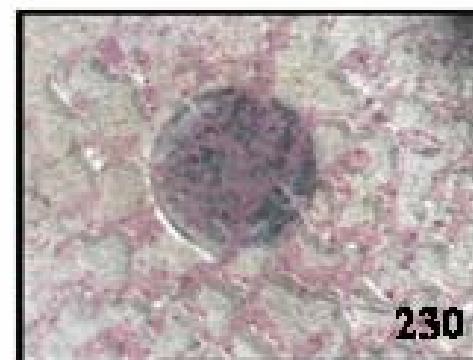
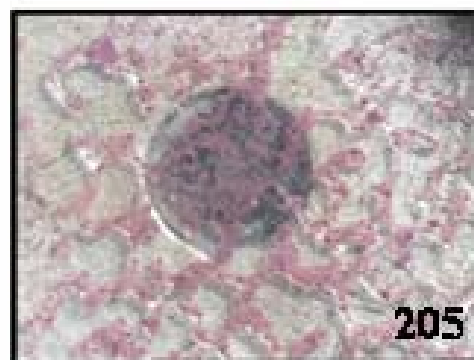
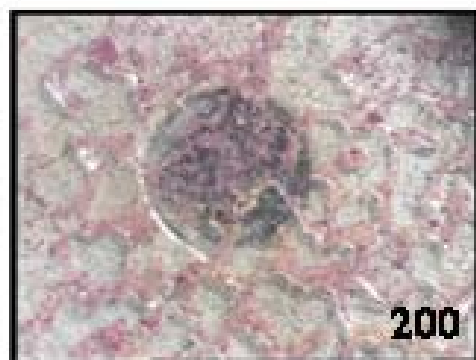
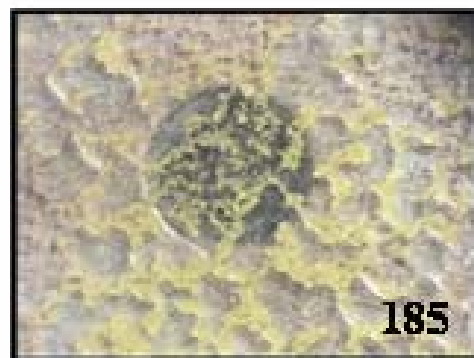
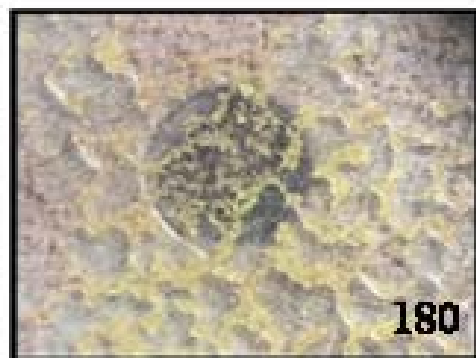
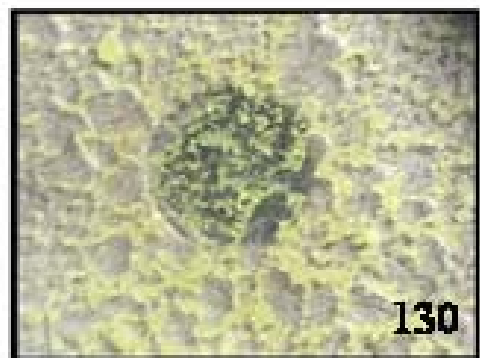
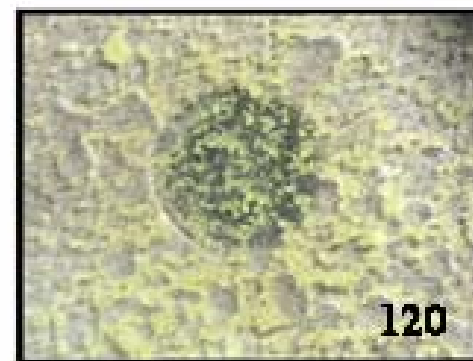
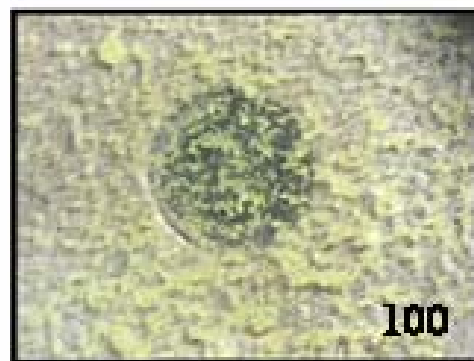
TGA trace for $\{cis-[Ni(I-Et-S,O)(DPE-N,N)]_2\}_n$ (**5**) with 1st derivative curve indicated.



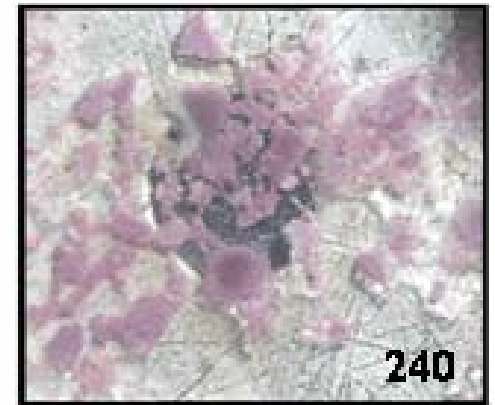
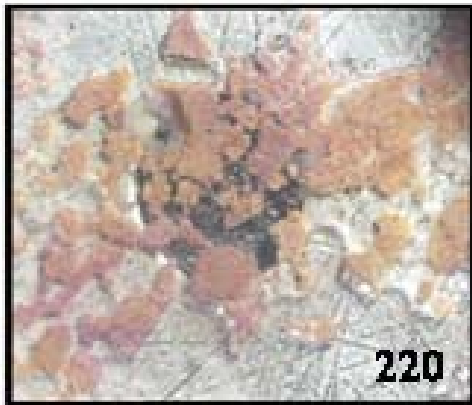
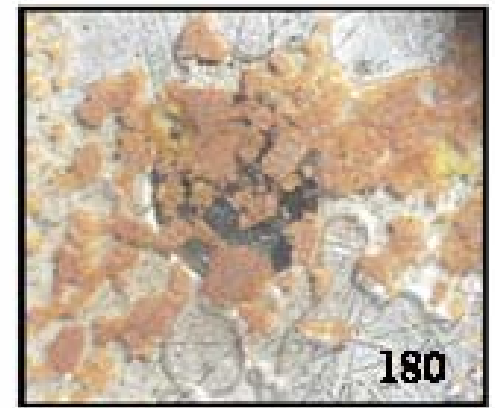
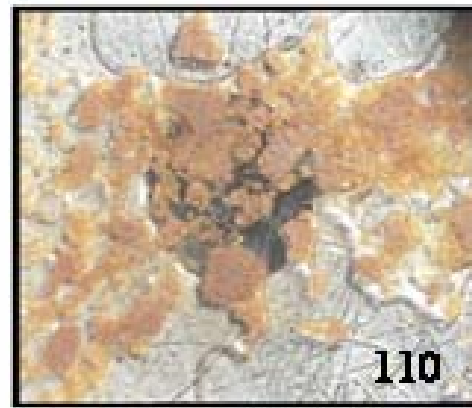
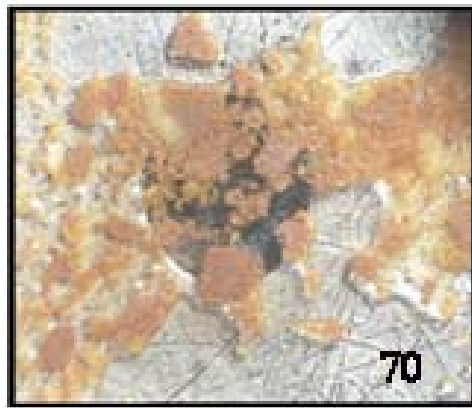
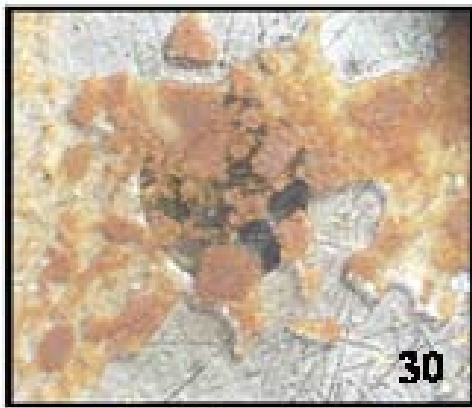
HSM photographs of **2** heated under silicone oil. Temperatures reported in degrees Celsius



HSM photographs of **3** heated under silicone oil. Temperatures reported in degrees Celsius.



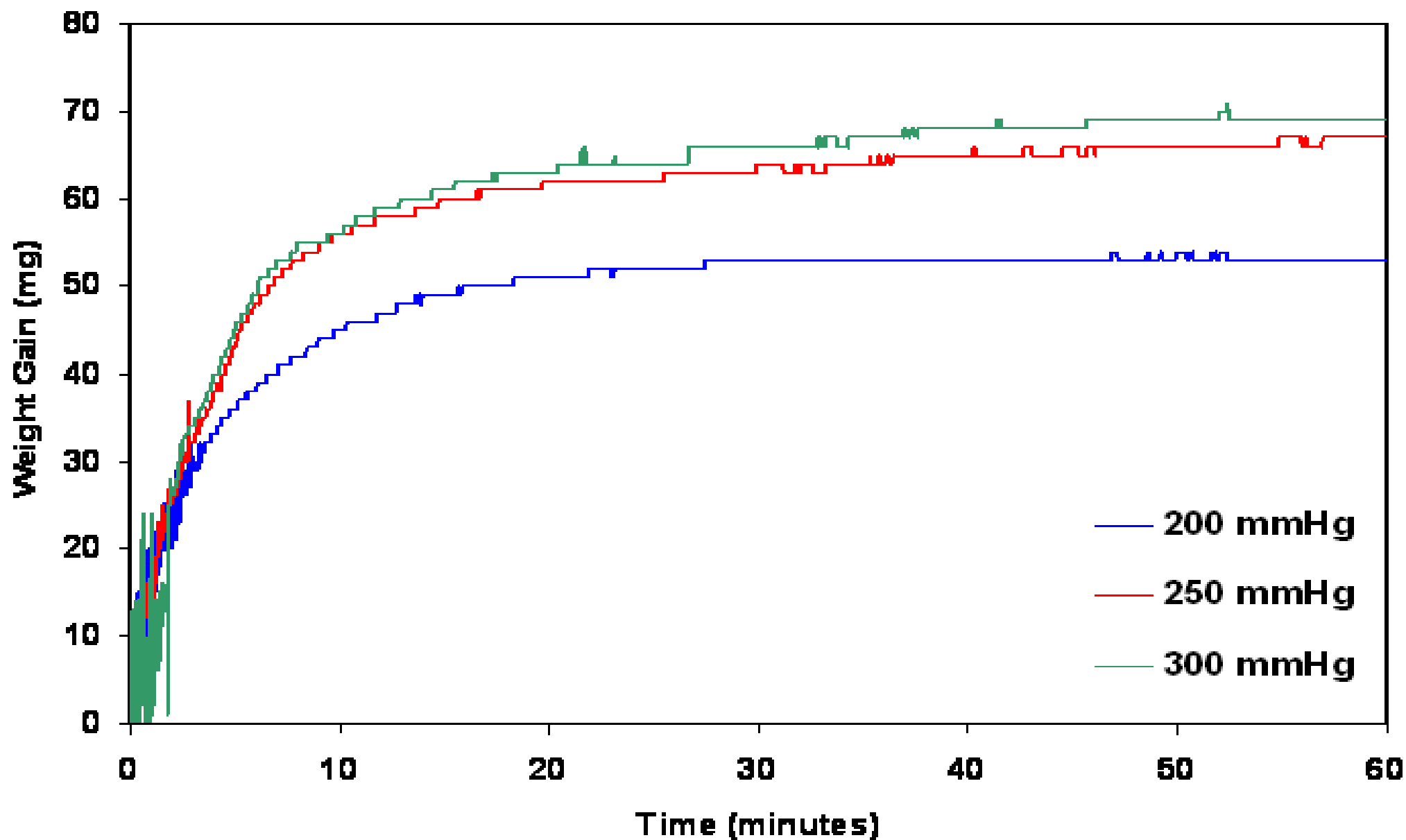
HSM photographs of **4** heated under silicone oil. Temperatures reported in degrees Celsius



HSM photographs of **5** heated under silicone oil. Temperatures reported in degrees Celsius.



Digital photographs of a sample of $\{cis-[Ni(I-Et-S,O)(DPE-N,N)]_2\}_n$ (**5**): (i) as a light orange powder prior initially, (ii) undergoing a colour change immediately upon enclosure in a CH_2Cl_2 saturated chamber, (iii) substantially further in the transition in colour after ca. 5 seconds of exposure and (iv) in the final chromatic state as a pale green powder after 1 minute of exposure.



Results of gravimetric study of isobaric sorption of CH_2Cl_2 by $\{cis\text{-}[\text{Ni}(\text{I-Et-S,O})(\text{DPE-}M,N)]_2\}_n$ (**5**) performed on a levitating balance