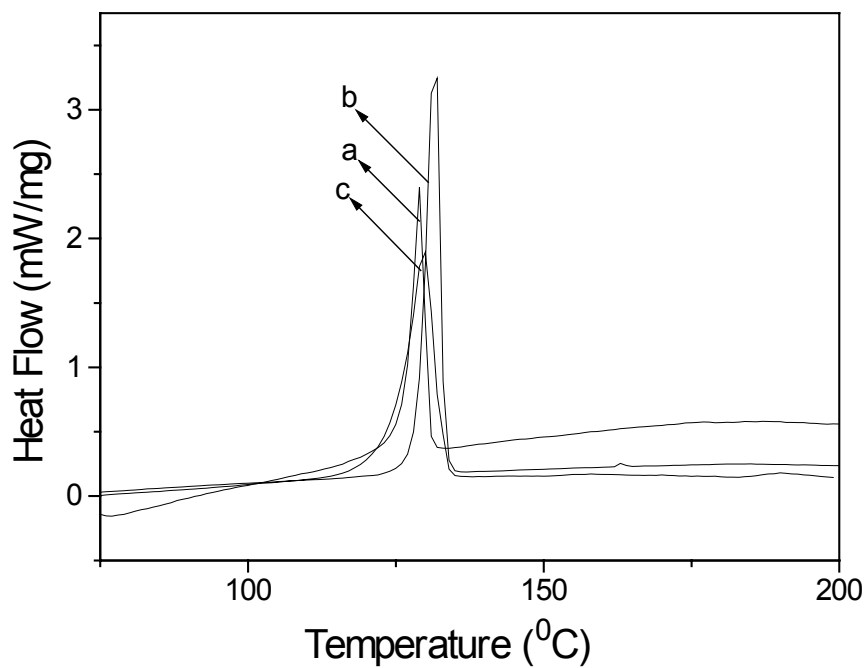
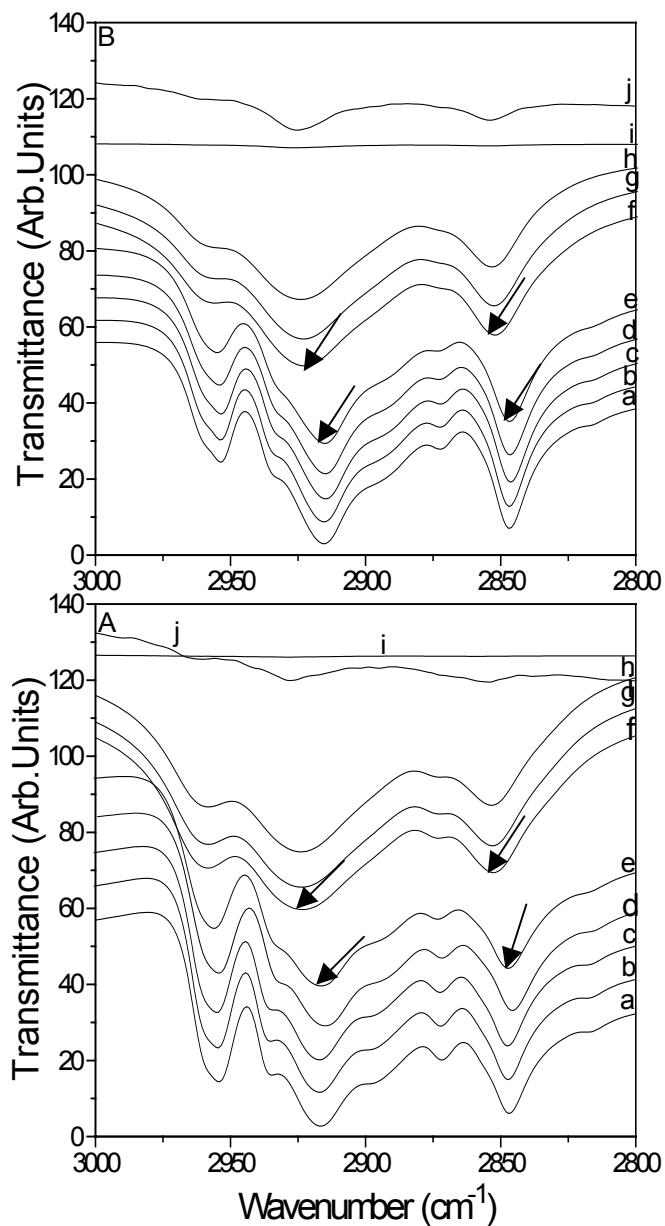


Supporting Information 1



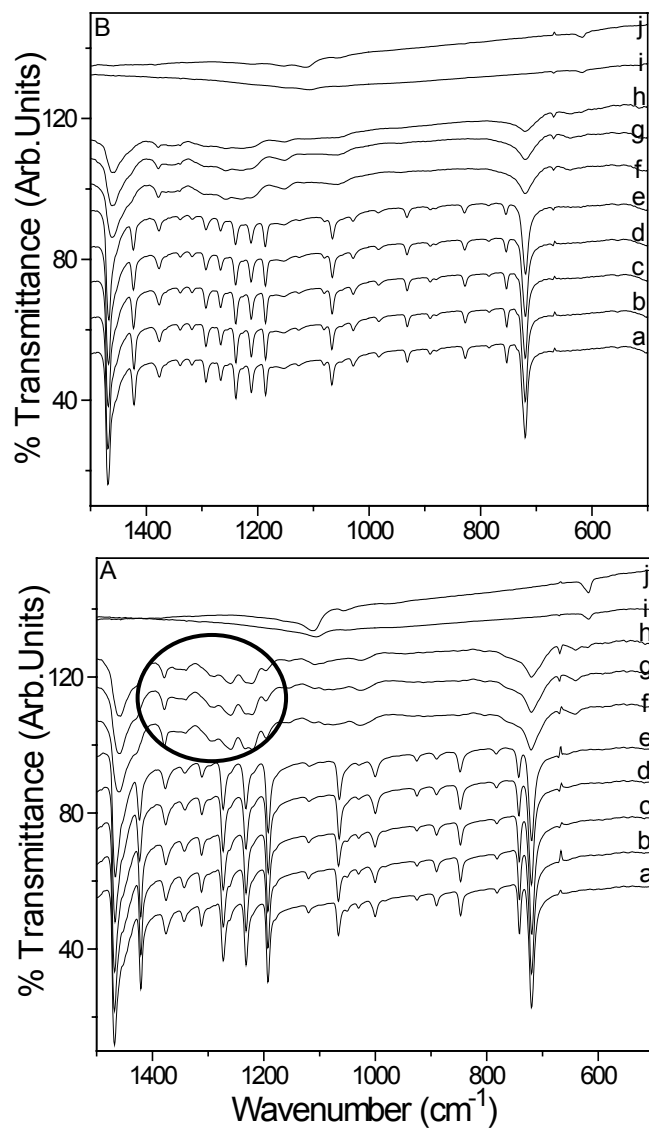
Traces, a, b and c represent the DSC of C₆, C₈ and C₁₂ thiolates, respectively. Maxima of the DSC peak shapes for C₆, C₈ and C₁₂ thiolates are at 401, 404 and 402 K, respectively.

Supporting information 2



IR spectra of AgOT (A) and AgDDT (B) in the range 3000-2800 cm^{-1} . Trace a is the IR spectrum of the sample at room temperature, b is that at 298K. Subsequent traces were taken at 25 K interval. The melting of the alkyl chains in both the thiolates is manifested at 398K and the conformational disorder is manifested in the IR region. As a result of melting the peak frequencies shift. Trace j was taken after cooling the sample back to room temperature. Sharp transition is shown by the arrows.

Supporting information 3



IR spectra of AgOT (A) and AgDDT (B) in the region of 1500-500 cm⁻¹. In (A) and (B), *a* is the IR spectrum of the sample at room temperature and *b* is that at 298K. Subsequent traces were recorded at 25 K intervals. Unlike in the case of AgDDT, the progression bands do not disappear completely in the case of AgOT at 398 K (shown by the circle in (A)). This indicates the presence of residual order in this system. Trace *i* was taken after cooling back to room temperature.