
Dielectric and Raman investigations of structural phase transitions in $(\text{C}_2\text{H}_5\text{NH}_3)_2\text{CdCl}_4$

Ruchika Yadav^{†a}, Diptikanta Swain^b, Partha P. Kundu^{b,c}, Harikrishnan S. Nair^{d,e}, Chandrabhas Narayana^b and Suja Elizabeth^a

^a Department of Physics, Indian Institute of Science, Bangalore-560012, India; E-mail: ruchika@physics.iisc.ernet.in

^b Chemistry and Physics of Materials Unit, Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur, P.O. Bangalore 560064, India.

^c Department of Physics, M.S. Ramaiah University of Applied Sciences, Bangalore-560058, India.

^d Highly Correlated Matter Research Group, Physics Department, P. O. Box 524, University of Johannesburg, Auckland Park 2006, South Africa.

^e JCNS 2/Peter Grünberg Institute 4, Forschungszentrum Jülich, 52425 Jülich, Germany.

1 Supplementary Information

FIG. S1. Temperature evolution of Raman spectra of external modes of organic ions; Cd–Cl bending and stretching mode frequencies of $(\text{C}_2\text{H}_5\text{NH}_3)_2\text{CdCl}_4$ (a and b) and fwhm (c) of respective bonds in the temperature range 77–298 K.

FIG. S2. (a) Temperature evolution of Raman spectra of stretching modes of C–N and C–H bonds and symmetric NH_3 deformation modes of $(\text{C}_2\text{H}_5\text{NH}_3)_2\text{CdCl}_4$ ((a) and (b)) and fwhm of the respective modes in the temperature range 77–298 K.

FIG. S3. (a) Temperature evolution of Raman spectra of deformation modes of NH_3 and CH_3 , stretching modes of C–H bond of $(\text{C}_2\text{H}_5\text{NH}_3)_2\text{CdCl}_4$. (c) fwhm of respective modes in the temperature range 77 - 298 K.

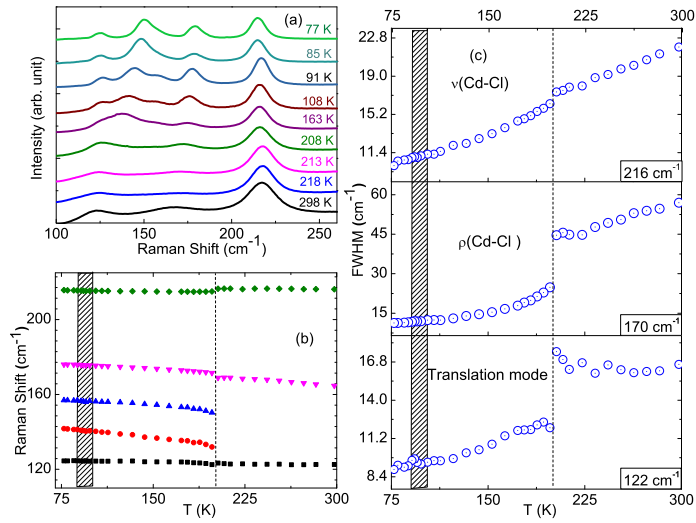


FIG. S1

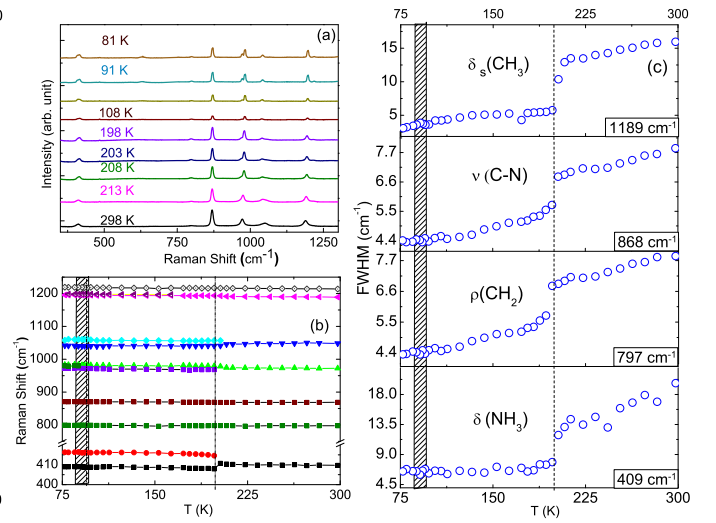


FIG. S2

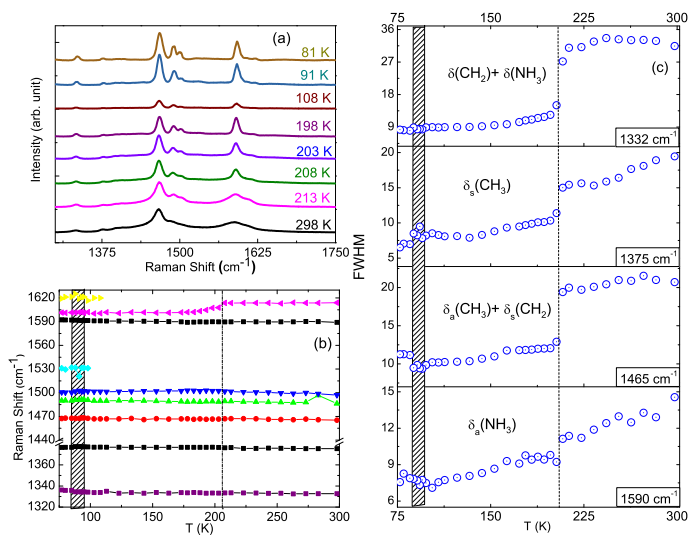


FIG. S3