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SUNWAY UNIVERSITY

Crystallisation of Bis(N-hydroxyethyl-N-isopropyl Dithiocarbamato)Cadmium(II)

SUNWAY UNIVERSITY
RESEARCH CENTRE FOR
CRYSTALLINE MATERIALS
TAN YEE SENG

INTRODUCTION

- Crystallography
 - Structural determination method
- Crystallisation technique
- Cadmium Dithiocarbamate

CRYSTALLOGRAPHY

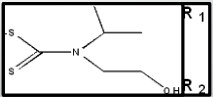
- Structural determination
 - Single Crystal X-Ray Diffraction (SCXRD)
 - Powder X-Ray Diffraction (PXRD/XPRD)

CRYSTALLISATION TECHNIQUE

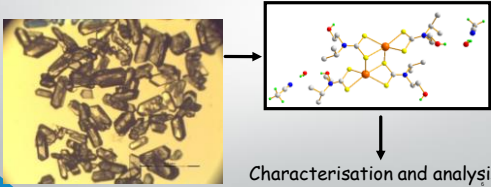
- **Slow evaporation**
- Solvent diffusion
- Vapor diffusion
- Temperature Gradient
- Solvothermal/ hydrothermal
- **Gel diffusion**

CADMIUM DITHIOCARBAMATE

- Cadmium metal ion (Cd^{2+})
- Dithiocarbamate ligand

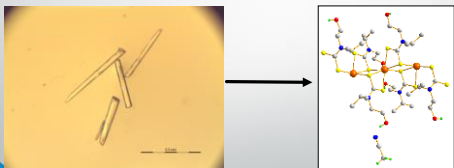


SLOW EVAPORATION (ACETONITRILE)



Characterisation and analysis?

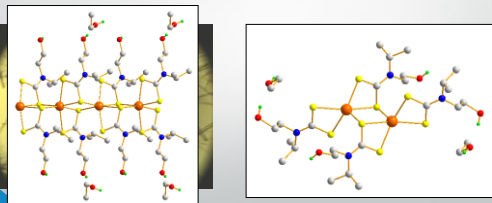
SLOW EVAPORATION (ACETONITRILE)



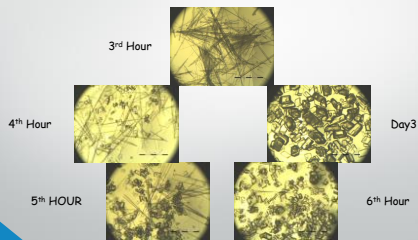
CRYSTAL TRANSFORMATION 1



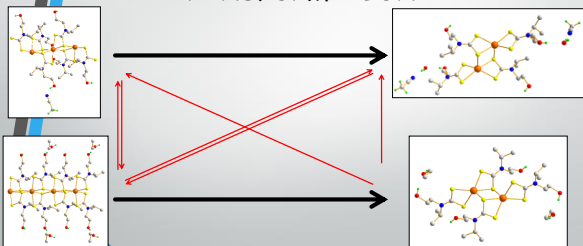
SLOW EVAPORATION (ETHANOL)



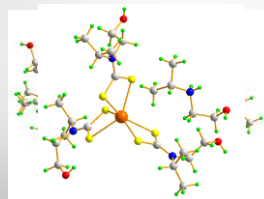
CRYSTAL TRANSFORMATION 2



SOLVENT INDUCE REVERSIBLE TRANSFORMATION



Other Crystallisation Outcome



SoDo Crystal

CONCLUSION

- Crystallisation
 - Solvate free
- Observation
 - Crystallisation Process
- Various method
 - Polymorph

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