

Laboratory Experiment Proposal Submission

Experimental Details

Experiment location: E136
Experiment title: Summer School 2013: Solid-State Ligand Dynamics of Mn[N(CN)₂]₂(Pyrazine) on DCS and HFBS
Experiment date: March 26
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Chemicals Used

<u>Chemical Name</u>	<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>	<u>Special Hazards</u>
Pyrazine	2	2	3	NONE
Manganese(II) Chloride Tetrahydrate	1	0	0	
Sodium Dicyanamide	2	0	0	NONE

Reactants and Resulting Samples

<u>Chemical Name</u>	<u>Hazardous?</u>	<u>Known Hazards</u>
Mn[N(CN) ₂] ₂ (Pyrazine)	N	

Required Safety Equipment

- Lab Coat

Required Laboratory Equipment

- Balance
 Centrifuge
 Drying Oven
 Hot Plate
 Ftir
 Xray Diffractometer
 Laboratory Press
 Vacuum Oven

Experimental Write Up

Using Balance, weigh individual reagents and portion out solution. While continuously stirring, mix a 5 mL aqueous solution of $\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$ (1.7 mmol, 0.3373 g) with a 1:1 $\text{H}_2\text{O}:\text{EtOH}$ solvent mixture (10 mL) containing $\text{Na}[\text{N}(\text{CN})_2]$ (3.4 mmol, 0.3034 g) and pyrazine (1.7 mmol, 0.1360 g) to precipitate a pale yellow powder. Transfer solution to centrifuge tube and centrifuge until precipitate is well separated. Decant excess solvent and place damp powder in watch glass, to dry in drying oven or concurrently while under vacuum. Ovens will be operated at 80 degrees Celsius. To check for purity of sample, use x-ray diffractometer and FTIR. For FTIR, KBr pellets will be pressed using the standard setup with the lab press.

Experimenter Signature: _____

Date: _____

Lab Responsible Signature: _____

Date: _____