

Investigation of Syngas Interactions in Alcohol Synthesis Catalysts

Technical Report April 15, 1998

By: Murty A. Akundi

Work Performed Under Contract No.: DE-FG22-93MT93010

For
U.S. Department of Energy
Office of Fossil Energy
Federal Energy Technology Center
P.O. Box 880
Morgantown, West Virginia 26507-0880

By Xavier University of Louisiana New Orleans, Louisiana 70125 MASTER CAT

Disclaimer

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does necessarily constitute imply its or recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

Portions of this document may be illegible electronic image products. Images are produced from the best available original document.

TABLE OF CONTENTS

Backgro	und	1
Project C	Objectives	4
Experim	ental: Instrumental	
A.	Zero Field NMR	6
B.	Magnetometry (VSM)	10
C.	FTIR	16
Work Pe	erformed: Results and Discussion	
A.	Sample preparation	19
B.	Effect of Precipitation Sequence	
	1. NMR Results and Magnetization Data	23
	2. FTIR Studies	30
	3. Catalytic Studies	36
C.	Syngas Interaction Studies	
	NMR Results and Magnetization Data	39
	2. FTIR Studies	57
Reference	ces	71
	Undergraduate Student Training: Papers Presented	74