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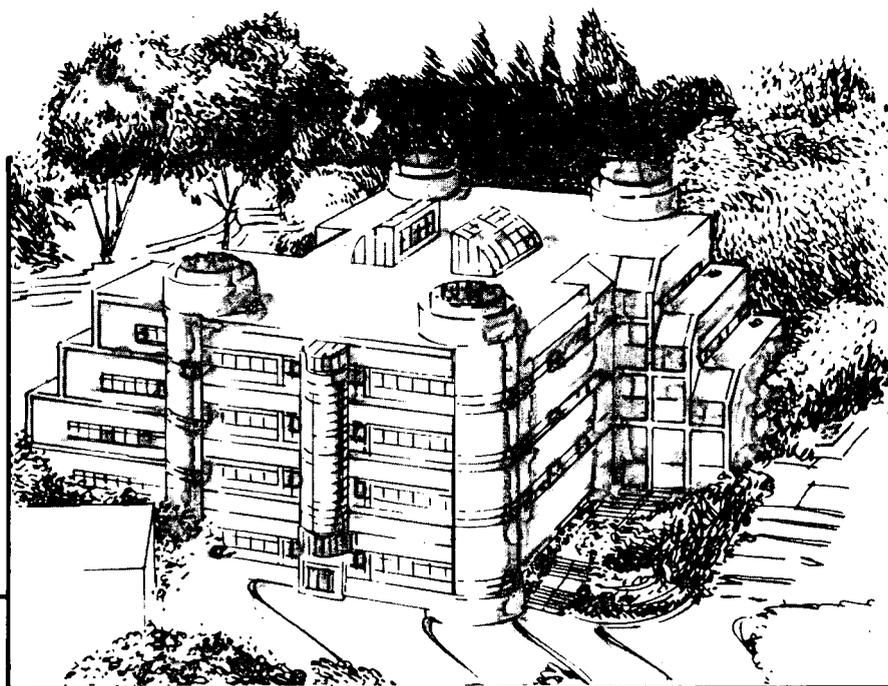
## Conversion of Ethane and of Propane to Higher Olefin Hydrocarbons

Quarterly Report:

February 1, 1991–March 31, 1991

H. Heinemann and G.A. Somorjai

March 1991



**Materials and Chemical Sciences Division**  
**Lawrence Berkeley Laboratory • University of California**  
ONE CYCLOTRON ROAD, BERKELEY, CA 94720 • (415) 486-4755

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**QUARTERLY REPORT**

February 1, 1991 - March 31, 1991

**CONVERSION OF ETHANE AND OF PROPANE  
TO HIGHER OLEFIN HYDROCARBONS**

Principal Investigators: Heinz Heinemann  
Gabor A. Somorjai

Center for Advanced Materials  
Materials Sciences Division  
Lawrence Berkeley Laboratory  
University of California  
Berkeley, CA 94720

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## **I. Task Description for FY 1991**

It is the purpose of this work to extend recent findings of oxidative methane coupling to the coupling of paraffinic hydrocarbons such as ethane and propane to produce C<sub>4</sub> respectively C<sub>6</sub> and higher hydrocarbons. Variables which have been shown to influence the olefin/paraffin ratio of the product will be investigated to optimize olefinic products. A study of the reaction mechanisms is to be undertaken on the basis of which improved catalysts will be synthesized.

## **II. Highlights**

No experimental work on this project has yet been undertaken. Funding for the project was received in February, 1991, and a postdoctoral fellow has now been hired to carry out work on this project. He is expected to report for work in May of this year. In the meantime, ethane and propane gas have been ordered and some equipment modifications have been undertaken to permit start of experimental work as soon as possible.

*LAWRENCE BERKELEY LABORATORY  
CENTER FOR ADVANCED MATERIALS  
1 CYCLOTRON ROAD  
BERKELEY, CALIFORNIA 94720*