# Catalytic Reduction of Carbonyl Functional Groups in 2-Propanol by Molybdocene Hydrides

by

Louis Y. Kuo,* David M. Finigan, Nicholas N. Tadros

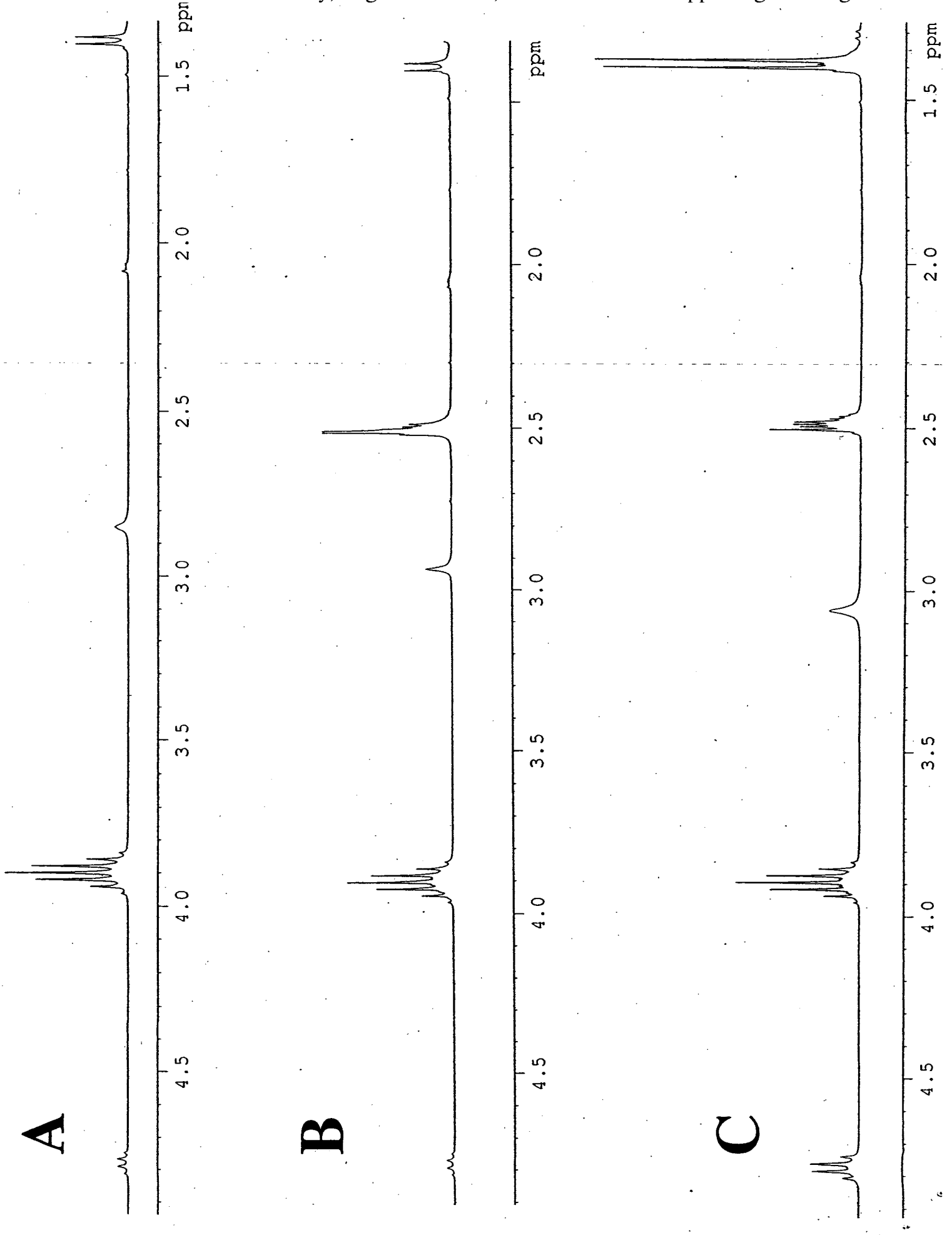
Dept. of Chemistry, Lewis & Clark College, Portland Oregon 97219

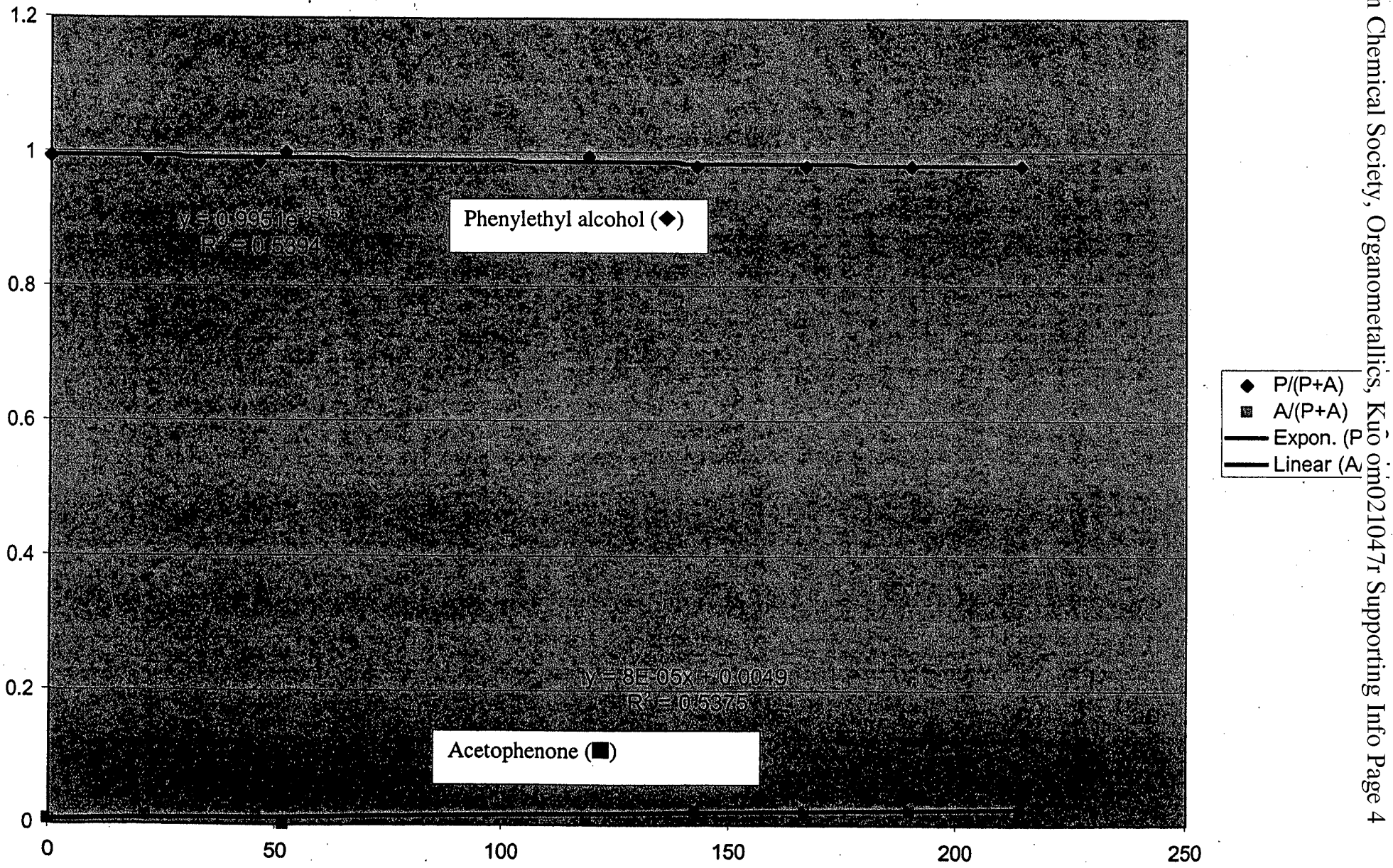
## SUPPORTING INFORMATION

1. Supporting $^1$H NMR spectrum
2. Plot of reverse reaction for the oxidation of phenylethyl alcohol to acetophenone.
3. Plot of dimer to monomer conversion for compound **I**.

This supporting information includes plots for the reverse reaction-the oxidation of phenyl ethyl alcohol, which show the backwards reaction was negligible as well as the dimer-to-monomer conversion in isopropanol-$d_8$.

Included in this supplementary material are the $^1$H NMR spectra of the hydrogenation of acetophenone with **I** in 2-propanol (A) after evaporation of the solvent. Authentication of the product alcohol (1.4 ppm and 4.9 ppm) was confirmed by addition of the acetophenone (2.5 ppm) (B) followed by 1-phenylethyl alcohol (C). Spectra were taken in $CDCl_3$ where the broad peak at 2.8-3.1 ppm is water, and the septet at 3.9 ppm is the residual 2-propanol solvent that was not evaporated.





**Breakdown of Dimer in 2-propanol-$d_8$ at 65°C. Diamonds represent the dimeric form of molybdocene, and the squares represent the monomeric form. Rate constant for this conversion from dimer to monomer is $8.95 \times 10^{-2}$ $sec^{-1}$**