

Efficient synthesis of diphenyl carbonate from dibutyl carbonate and phenol using square-shaped Zn-Ti-O nanoplates as solid acid catalyst

Peixue Wang ^{a,b}, Shimin Liu ^a, Feng Zhou ^{a,b}, Benqun Yang ^{a,b}, Ahmad S. Alshammari ^c, Youquan Deng ^{a, *}

^a Centre for Green Chemistry and Catalysis, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou, 730000, China

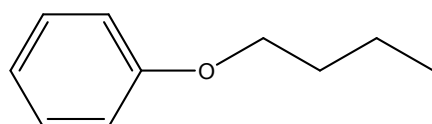
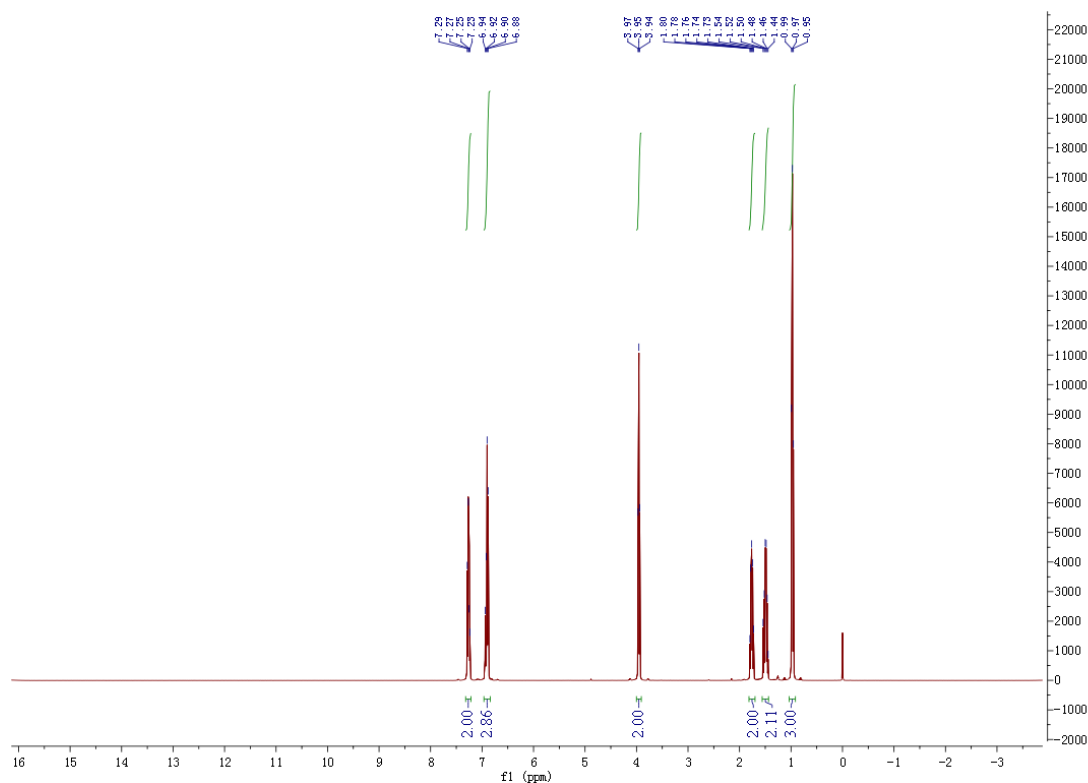
^b University of Chinese Academy of Sciences, Beijing, 100049, China

^c National Nanotechnology Research Center, King Abdulaziz City for Science and Technology, P.O. Box 6086, Riyadh 11442, Saudi Arabia

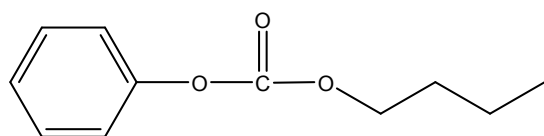
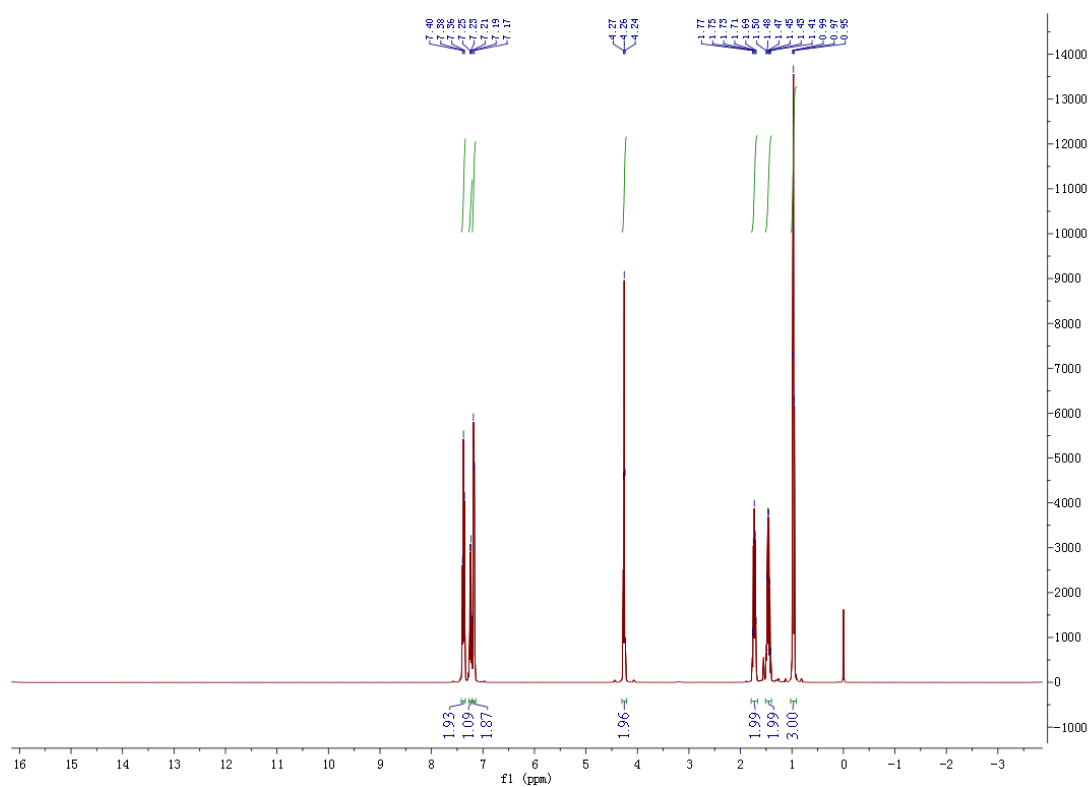
* Corresponding author. Tel.: +86-931-4968116; fax: +86-931-4968116.

E-mail address: ydeng@licp.cas.cn

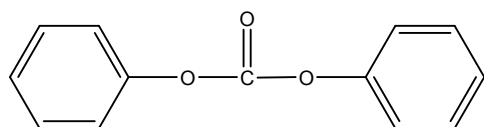
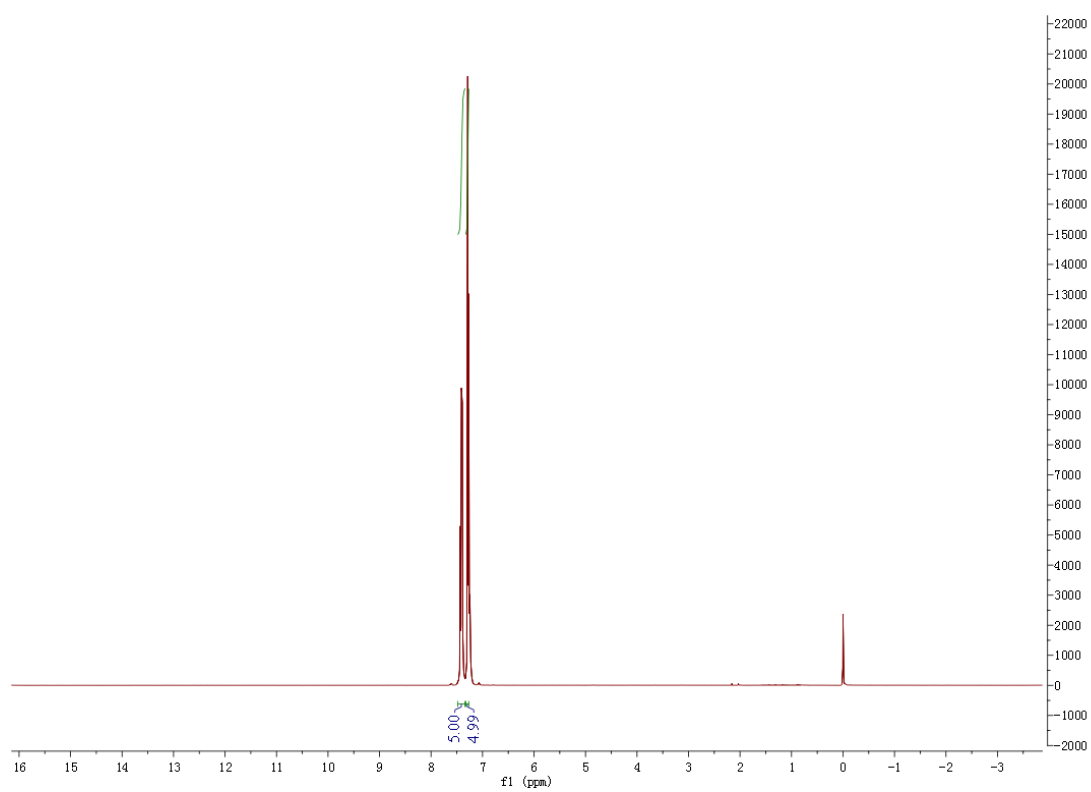
¹H NMR data and spectra of the by-products and product



¹H NMR (400MHz, CDCl₃): δ=0.97 (t, J=6 Hz, 3H), 1.44-1.56 (m, 2H), 1.70-1.82 (m, 2H), 3.95 (t, J=6.5Hz, 2H), 6.91 (m, 3H), 7.26(m, 2H)



¹H NMR (400MHz, CDCl₃): δ=0.74 (t, J=7.4 Hz, 3H), 1.16-1.28 (m, 2H), 1.44-1.56 (m, 2H), 4.02 (t, J=6.7Hz, 2H), 6.94 (d, J=7.7Hz, 2H), 6.97-7.04 (m, 1H), 7.14 (t, J=7.9Hz, 2H)



¹H NMR (400MHz, CDCl₃): δ=7.25-7.27 (m, 5H), 7.39-7.43 (m, 5H)