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Discussion

Reply to the comments of M. Selva on "Zeolite-promoted selective mono-*N*-methylation of aniline with dimethyl carbonate" J. Mol. Catal. A: Chem. 218 (2004) 197–201

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Contributions from P. Tundo and M. Selva to the chemistry of dimethyl carbonate and particularly to *N*-methylation of various anilines in the presence of NaY are well known and adequately represented (6 references out of 31) in our paper. However, a few recent ones (such as the use of asymmetrical dialkyl carbonates (J. Org. Chem. 66 (2001) 677–680), kinetics and selectivity (J. Org. Chem. 67 (2002) 9238–9247) and functionalized anilines (J. Org. Chem. 68 (2003) 7374–7378)) were not included in our list of references as they represent some aspects of mono-*N*-methylation, not exactly matching the point of discussion of our paper. This omission is regretted.

The salient features of our paper, which deviate markedly from those reported in Selva's contributions, are outlined below.

(a) Use of a non-polar solvent namely benzene (to ensure the presence of substrate predominantly inside the zeolite cage) which is also mentioned in the remarks of M. Selva.
(b) Stoichiometric amounts of dimethyl carbonate.
(c) Lower temperature (Selva *et al.* reported the reaction at 90 °C only with aminophenols and most of their studies use only elevated temperatures).
(d) The efficiency of KY and NaX to also catalyze the reaction and the inefficiency of acidic zeolites HY and CaY (with Bronsted acidity), and NiY and BaY (possessing Lewis acidity) to promote mono-*N*-methylation.
(e) The superiority of dibenzyl carbonate over benzyl chloride and the selective monobenzylation with NaX, as well as lower monobenzylation conversion with HY and NiY.

Thus, I feel that our work (while complementing the extensive contributions of Tundo and Selva) possesses sufficient novelty as the title reaction is carried out using various cation-exchanged zeolites and in a non-polar media.

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