Augmented conversions of Aromatic Alcohols by Carbon dioxide over mesoporous carbon nitride

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Oxidation reactions are one of the important transformations in the field of catalysis. Dense phase carbon dioxide oxidations have emerged as a new trend in catalytic chemistry which imparts greenness to the catalytic system by increased conversions. However these systems are prone to problem like high operative pressures and most of them are based on metal catalyst. Hence there is necessity of a rigid system which show such increased conversion at low operative pressures.

In here we report the behavioral aspects of carbon nitride towards oxidation of aromatic alcohols in carbon dioxide. The aromatic alcohols depicted conversions in between 63-34% in O_2 whereas in co-presence of CO_2 augmented conversions (91-54%) were observed with higher selectivities for acid. This difference in catalytic activity was due to synergetic activation of carbon dioxide over lewis basic site of carbon nitride as confirmed by IR spectra.