Title:	Enhanced Catalytic Activity of a Cd(II) Complex Containing an Unsymmetrical Primary Amide Functionalized Ligand for the Solvent-Free Cyanosilylation Reaction
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Abstract:	Using a new unsymmetrical and flexible primary amide-functionalized ligand, a novel crystalline complex, [Cd((S)-2-BPMEG)(H2O)](ClO4)2.2H2O (1), has been synthesized under ambient conditions and characterized by various analytical techniques. Its activated form (1a), obtained upon heating under vacuum at 80 °C for 8 h, acts as an excellent heterogeneous catalyst (2 mol% and 30 min at 25–27 °C) for the solvent-free cyanosilylation reaction of various derivatives of benzaldehyde, aliphatic, cycloaliphatic and heterocyclic aldehydes with trimethylsilyl cyanide (TMSCN) in 97–100% conversion. Compared to the symmetrical analogue, its catalytic activity enhanced by an order of magnitude is remarkable. The catalyst is recyclable up to five consecutive cycles without significant loss of activity and structural integrity.
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