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Title:	Three Coordinated Organoaluminum Cation for Rapid and Selective Cyanosilylation of Carbonyls under Solvent-Free Conditions
Authors:	Rawat, S. (/jspui/browse?type=author&value=Rawat%2C+S.) Bhandari, M. (/jspui/browse?type=author&value=Bhandari%2C+M.) Prashanth, B. (/jspui/browse?type=author&value=Prashanth%2C+B.) Singh, Sanjay (/jspui/browse?type=author&value=Singh%2C+Sanjay)
Keywords:	Carbonyl Cationic aluminum complex Chemoselectivity Cyanosilylation Organoaluminum catalyst
Issue Date:	2020
Publisher:	Wiley Blackwell
Citation:	ChemCatChem, 12(9), pp.2407-2411.
Abstract:	The well-defined three coordinated electronically unsaturated cationic organoaluminum complex $[(\{2,6\text{-iPr}_2\text{C}_6\text{H}_3\text{N}\})\text{P}(\text{Ph}_2)_2\text{AlMe}]^+[\text{MeB}(\text{C}_6\text{F}_5)_3]^-$ (1), has been utilized to catalyze the cyanosilylation of aldehydes and ketones under mild and solvent-free conditions. Moreover, catalyst 1 showed high chemoselective cyanosilylation of aldehydes over ketones, nitriles and olefins. The multinuclear NMR investigations revealed that cyanosilylation proceeds via Lewis adduct formation between 1 and TMSiCN thereby activating TMSiCN (Si-CN bond) followed by nucleophilic attack of the carbonyl oxygen at the Si center of the activated silane and formation of the product.
URI:	https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/cctc.202000309 (https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/cctc.202000309) http://hdl.handle.net/123456789/3480 (http://hdl.handle.net/123456789/3480)
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