Covalent grafting of cobalt carbonyl cluster on functionalized mesoporous SBA- 15 molecular sieve and its applications towards hydroformylation of 1-octene

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Graphical abstract

A new method was developed for the grafting of cobalt carbonyl clusters on the surface of SBA-15 using [(2-propynylcarbonate)-propyl]triethoxysilane organosilane ligand as linker. The resulting cobalt carbonyl clusters grafted material showed a promising catalytic activity (97 % conversion) towards hydroformylation of 1-octene with 90% selectivity for hydroformylated products.