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LAMELLAR MATERIALS AS CATALYST PRECURSORS

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Lamellar materials can be used as catalysts precursors for several kinds of reactions. Montmorillonites can be pillared to increase accessibility to the reagents. Depending on the chosen pillars, properties vary. Several examples are: Al pillars can be active for acid reactions like cracking; Ti pillars can be used for oxidation, Fe and Fe/Al pillars can be applied to perform Fenton oxidations, and Co/Al pillars enable Fisher Tropsh reactions. Pillared clays increase the possibilities of employing clay minerals as catalysts. Furthermore, other kind of lamellar materials can be also used as catalysts precursor, like as layer double hydroxides, lamellar zeolites and anothers. For this purpose, it can be employed lamellar zeolites for the synthesis of pillared zeolites and delaminated zeolites. These lamellar materials have a wide range of applications as catalysts and adsorbents too.