Site-Selective C(sp^3)–H Oxidation of Aliphatic Substrates Devoid of Functional Handles[1]

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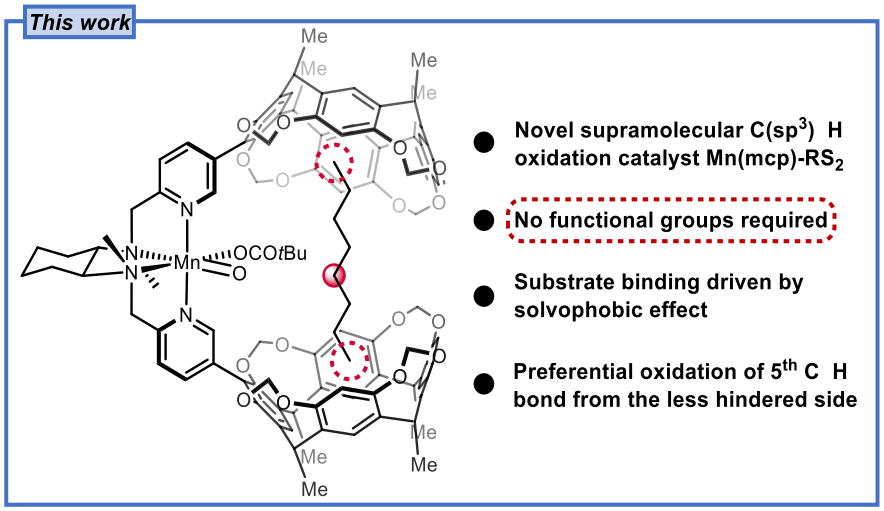
Although tremendous progress in the field of C(sp^3)–H oxidation has been achieved over the past decades, the selective oxidation of non-activated positions on hydrocarbon skeletons is still highly challenging. It usually requires the presence of a suitable functional group in proximity to the desired oxidation site or to use it to hold and orientate the substrate.[2-4] Here we present a novel approach for catalyst-directed C–H oxidation that relies on substrate binding via the solvophobic effect in fluorinated alcohols, and thus is independent of functional groups on the substrate. Enabled by the novel supramolecular catalyst Mn(mcp)-RS$_2$, the preferential oxidation at the fifth position on aliphatic substrates was observed.



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