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Castanea mollissima shell-derived porous carbons as metal-free catalysts for highly efficient dehydrogenation of propane to propylene

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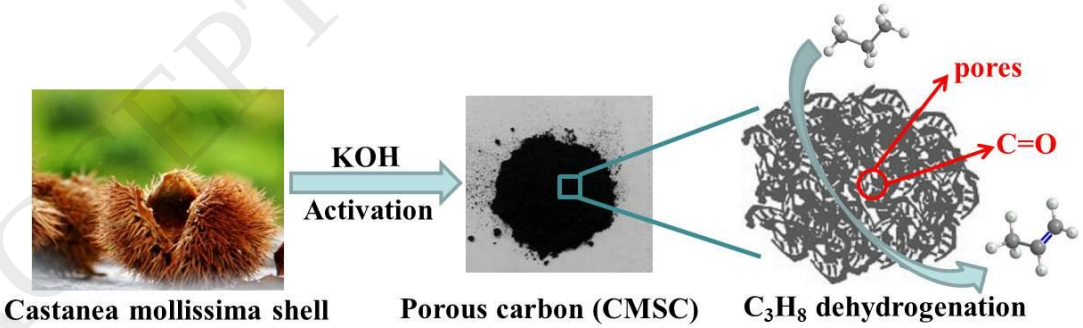
Graphical abstract

Biomass carbons with hierarchical porous structure and high surface area are prepared by KOH activation of castanea mollissima shell, exhibiting high catalytic activity, selectivity and stability in direct dehydrogenation of propane to propylene.



Highlights

- The hierarchical porous carbon with numerous oxygenated groups are derived from castanea mollissima shell.