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(57) Abstract: An active and selective hydrocarbon partial oxidation catalyst comprises an activated partially-reduced polyoxometallate, preferably niobium polyoxomolybdate, that is prepared from a suitable polyoxoanion, which has been exchanged with a suitable cation and activated by heating to an activation effective temperature in the presence of a suitable reducing agent such as pyridinium. C₃ and C₄ hydrocarbons may be partially oxidized selectively to acrylic acid and maleic acid.



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