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## Synthesis of Ruthenium-containing Polyoxomolybdate and Its Catalytic Features for Liquid-phase Oxidation Using Peroxo Compounds

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Needle-like crystals of ruthenium-molybdenum polyoxometalate having a composition of  $\text{Na}_4(\text{NH}_4)[\text{RuMo}_7\text{O}_{25}] \cdot 8\text{H}_2\text{O}$  (RuMo7) were synthesized with high reproducibility. With cetylpyridinium cation, RuMo7 was modified and its catalytic features were evaluated using oxidation of cyclohexanol to cyclohexanone with *t*-butyl hydroperoxide or hydrogenperoxide ( $\text{H}_2\text{O}_2$ ). The results indicated that RuMo7 exhibits high rate for the former reaction and that RuMo7 has high potential for  $\text{H}_2\text{O}_2$  decomposition.

**Keywords:** [Ruthenium molybdenum polyoxometalate](#), [Oxidation catalyst](#), [Cyclohexanol](#), [\*t\*-Butyl hydroperoxide](#), [Hydrogen peroxide](#)



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