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## Liquid Phase Oxidation of Benzyl Alcohol with Oxygen Using Ruthenium Containing Polyoxomolybdate

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Catalytic features of ruthenium-molybdenum polyoxometalate having a composition of  $[\text{Ru}_2\text{Mo}_{14}\text{O}_{50}]^{10-}$  or  $[\text{Ru}_2\text{Mo}_{14}\text{O}_{52}]^{14-}$  ( $\text{Ru}_2\text{Mo}_{14}$ ) were evaluated using liquid-phase selective oxidation of benzyl alcohol with oxygen.  $\text{Ru}_2\text{Mo}_{14}$  catalyst supported on titania support chemically modified with silane coupling agent that has amino groups ( $\text{Ru}_2\text{Mo}_{14}/\text{DAPS-TiO}_2$ ) exhibited much higher catalytic activity than other  $\text{Ru}_2\text{Mo}_{14}$  catalysts unsupported and supported on unmodified titania.  $\text{Ru}_2\text{Mo}_{14}/\text{DAPS-TiO}_2$  exhibited larger turnover frequency than representative polyoxometalates supported on  $\text{DAPS-TiO}_2$ .

**Keywords:** [Ruthenium molybdenum polyoxometalate](#), [Heterogeneous catalyst](#), [Liquid phase oxidation](#), [Silane coupling reagent](#), [Oxygen](#), [Benzyl alcohol](#)



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