Cerium oxide-supported gold catalysts for allyl alcohol oxidation

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Acrylic acid which is produced from propylene is raw material for various important polymers which used for adhesives, detergent, super absorbents, paper additives, textile, plastics and coating materials, etc. Glycerol which is byproduct of biodiesel production can be used for acrylic acid production. Conversion of glycerol to allyl alcohol was researched enough. If conversion of allyl alcohol to acrylic acid is completed, production of acrylic acid from glycerol will become new route. In preceding research, Carbon-supported gold catalyst is used for conversion of allyl alcohol to 3-HPA and little acrylic acid which is aerobic, liquid-phase oxidation of allyl alcohol at 50 ℃ and 3 bar oxygen. To increase yield of acrylic acid in preceding reaction, ceria-supproted gold catalyst is used instead of carbon-supported gold catalyst. In this research, ceria-supported gold catalyst was explored for producing acrylic acid in terms of durability, reaction time, weight% for best performance, etc.