

Apparatus and Method for Carrying Out Multiple Reactions

TECH FIELD(S)

Chemical – Synthesis

Chemical – Catalysis

FEATURES

Carrying out multiple reactions in a one flask is an important goal in chemical syntheses because of the need to increase the rate at which molecules are synthesized while reducing waste and reducing the hours of effort needed to carry out the reactions. While the use of single catalysts to carry out multiple reactions has been successful only one catalyst at a time can be added to a reaction vessel and often poison other catalysts or are poisoned by reagents. Methods for site-isolation of catalysts are have been successful but are limited by the need to alter the structure of the catalysts for attachment to a polymer or other solid support, requiring addition steps in synthesis. ***This innovation is a simple method for site-isolation of a catalyst from another catalyst or reagent through the use of a polymeric membrane that does not require the structure of the catalyst or reagent to be altered.***

BENEFITS

- Efficiently allows incompatible catalysts and reagents to perform cascade reactions
 - High flux rate
 - Polymer is inexpensive and commercially available
 - Polymer can be formed into any shape reaction vessel
 - Both ionic and polar catalysts and reagents can be site-isolated while other organic molecules react with both
 - Allows for full recovery of catalysts or reagents
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INVENTOR(S)

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INTELLECTUAL PROPERTY STATUS

Patent applied for.

CONTACT

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