RUTHENIUM-CATALYZED SELECTIVE OXIDATION OF POLYETHYLENES

Tech ID: 31851 / UC Case 2020-099-0

PATENT STATUS

Country	Type	Number	Dated	Case
European Patent Office	Published Application	4142934	03/08/2023	2020-099

Additional Patent Pending

BRIEF DESCRIPTION

Polyolefins currently constitute approximately half of all synthetic plastics produced worldwide. Despite their low cost and excellent thermal and mechanical properties, polyolefins generally do not mix well with other materials, and this lack of compatibility limits their use in high-performance composites and as components of more sustainable plastics. This invention incorporates low levels of polar functional groups into polyolefins which is a promising strategy to overcome this shortcoming.

SUGGESTED USES

Polyoefins are quintessential commodity plastics of immense commercial important but the lack of functionality can limit their use in many advanced applications.The C-H functionalization is a promising strategy for incorporating functionalities into polymers of ethylene and linear alpha- olefins.

ADVANTAGES

The polymers of ethylene and other linear alpha-olefins overcome the problems of branched alph-alkenes that are less reactive due to steric effects which also undergo side reactions, such as chain scission that lead to polymer degradation.

RELATED MATERIALS

CONTACT

Craig K. Kennedy
craig.kennedy@berkeley.edu
tel: .

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INVENTORS

» Hartwig, John F.

OTHER INFORMATION

KEYWORDS

ethylene

CATEGORIZED AS

» **Materials & Chemicals**

» Chemicals

» Polymers

RELATED CASES

2020-099-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- CONVERSION OF POLYOLEFINS TO LIGHT OLEFINS WITH BASE-METAL HETEROGENOUS CATALYSTS
- Dehydrogenation And Isomerizing Ethenolysis Of Polyethylene

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