DEHYDROGENATION AND ISOMERIZING ETHENOLYSIS OF POLYETHYLENE

Tech ID: 32830 / UC Case 2022-130-0

PATENT STATUS

Country	Type	Number	Dated	Case
European Patent Office	Published Application	EP4554922	05/21/2025	2022-130
China	Published Application			2022-130
Patent Cooperation Treaty	Published Application	WO2024/015617 A	03/07/2024	2022-130

Additional Patent Pending

BRIEF DESCRIPTION

This invention is a method includes mixing a polymer with one or more dehydrogenating reagent(s), thereby forming the dehydrogenated polymer. Such a dehydrogenated polymer can then be made into a alkene or a dehydrogenating polymer.

SUGGESTED USES

The conversion of polyolefins to small molecules (e.g., monomers) would enable the largest fraction of waste plastic to be a carbon feedstock, but such a task requires cleavage of carbon-carbon bonds that often resist selective chemical transformations. This invention does just this and recycles plastic for further use.

ADVANTAGES

This invention is a recycling process for plastics by making alkenes from a polymer and dehydrogenated polyethylene compositions.

RELATED MATERIALS

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Ruthenium-Catalyzed Selective Oxidation Of Polyethylenes

CONTACT

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

INVENTORS

» Hartwig, John F.

OTHER INFORMATION

CATEGORIZED AS

» **Environment**

» Remediation

RELATED CASES

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