Ultrastable Nanoemulsions In Disordered And Ordered States

Tech ID: 31951 / UC Case 2019-954-0

SUMMARY

Researchers in the Department of Chemistry and Biochemistry at UCLA have developed a method for the production of crystalline, iridescent emulsions stable to repeated dilutions.

BACKGROUND

Many existing nanoemulsion formulations suffer from instability, especially with regards to dilution. To prevent the nano-droplets from coalescing, more and more stabilizing agent must be added as the emulsion concentration is reformulated for application.

INNOVATION

Many existing nanoemulsion formulations suffer from instability, especially with regards to dilution. To prevent the nano-droplets from coalescing, more and more stabilizing agent must be added as the emulsion concentration is reformulated for application.

APPLICATIONS

- Drug delivery
- Cosmetics
- Agrochemicals
- Food additives
- Healthcare broadly

ADVANTAGES

- Stabilized by crystal packing rather than weak electrostatics
- Repeated dilution does not alter morphology
- Easily produced and isolated

RELATED MATERIALS

- Pagenkopp, M. J. and Mason, T. G. Surfactant Partitioning in Nanoemulsions. Langmuir, 34, 10309-103020. (2018)

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,890,585	02/06/2024	2019-954
United States Of America	Issued Patent	10,285,940	05/14/2019	2014-182
United States Of America	Issued Patent	9073022	07/07/2015	2008-625
United States Of America	Issued Patent	8,283,308	10/09/2012	2007-574

RELATED TECHNOLOGIES

- Process For Creating Stable Double Emulsions
- Process For Recycling Surfactant In Nanoemulsion Production
- Method of Making Multicomponent Nanoemulsions

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

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INVENTORS

- Mason, Thomas G.

OTHER INFORMATION

CATEGORIZED AS

- **Nanotechnology**
  - Materials
  - NanoBio

RELATED CASES

2019-954-0, 2007-574-0, 2008-433-0, 2008-625-0, 2014-182-0, 2014-705-0

- Process For Creating Stable Double Emulsions
- Measuring Size Distributions of Small-Scale Objects
- Process For Recycling Surfactant In Nanoemulsion Production
- Method of Making Multicomponent Nanoemulsions
- Novel Multi-Scale Pre-Assembled Phases of Matter
- Mechanical Process For Creating Particles Using Two Plates
- Process For Sorting Dispersed Colloidal Structures
- Shape-Controlled Particles Having Subparticle Geometrical Features

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