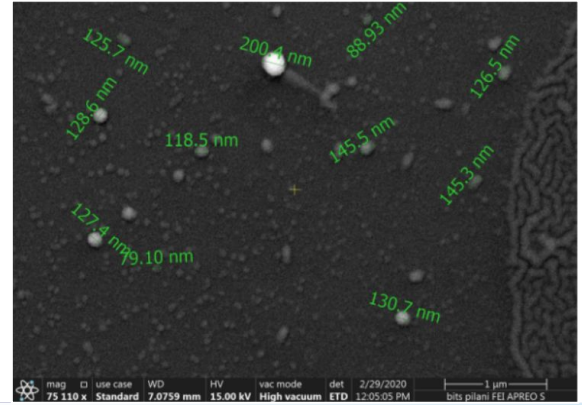




GRANTED

(IN434275)

Prolyotropic liquid crystals and method for preparing the same



NEED

More than 40% of antifungal therapies show poor absorption due to instability in delivery systems, causing treatment delays and recurring infections. Inconsistent drug penetration and degradation lead to therapy failures, increasing patient discomfort and healthcare burden.

TECHNOLOGY OVERVIEW

This patent introduces a prolyotropic liquid crystal composition embedding voriconazole. It self-assembles into stable liquid crystalline nanoparticles upon contact with water, offering high drug entrapment, uniform particle size, and enhanced delivery stability, addressing critical gaps in current antifungal and drug delivery technologies.

TECHNOLOGY KEY FEATURES

Particle size 100–400 nm, entrapment efficiency 55–90%, polydispersity index 0.1–1.0, lipid content 25–60% w/w, hydrotrope 20–40% w/w, rapid nanoparticle formation on hydration, stable delivery of antifungal agents without external stabilizers.

[Read more here](#)

MARKET ANALYSIS

The global lipid-based drug delivery market is projected to grow at a CAGR of 8.1%, reaching \$19.4 billion by 2033, driven by rising fungal infections and demand for advanced delivery systems. [Source: Allied Market Research, 2024]

Target Industries

Antifungal Pharma, Advanced Drug Delivery Systems, Biotechnology Platforms, Pharmaceutical R&D labs, nanoparticle delivery developers, biotech firms working on antifungal formulations and drug delivery enhancements.

AT A GLANCE

- SDG 3 (Good Health and Well-being), SDG 9 (Industry, Innovation, and Infrastructure), SDG 12 (Responsible Consumption and Production)

Technology is available for licensing/ co-development.

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