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Title: Formulation by design approach for development of ultrafine self-nanoemulsifying systems of rosuvastatin calcium containing long-chain lipophiles for hyperlipidemia management

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<remove picture pageno 1>Formulation by Design Approach for Development of Ultrafine

<AT>Self-Nanoemulsifying Systems of Rosuvastatin Calcium containing Long-Chain Lipophiles for Hyperlipidemia Management

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Highlights▶

<ABS-Head><ABS-HEAD>Graphical abstract

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<ABS-P><xps:span class="xps_Image">fx1</xps:span><ABS-HEAD> ▶ HIGHLIGHTS ▶ Development of ultrafine nanoemulsion formulation of rosuvastatin using long-chain lipophiles ▶ Extensive *in vitro* characterization for of formulation behaviour and performance ▶ Improvement in systemic drug absorption and antihyperlipidemic activity ▶ Extensive preclinical study for understanding biopharmaceutical performance enhancement

<ABS-HEAD>Abstract

<ABS-P>The present work entails systematic development of liquid self-nanoemulsifying drug delivery systems (L-SNEDDS) of rosuvastatin calcium containing long-chain lipophiles using QbD-driven Formulation by

<ABS-P><ST>Design</ST> (FbD) approach. Elements of quality target product profile (QTPP) were defined and critical material attributes (CQAs) earmarked. Excipient screening was performed for selecting a suitable long-chain lipophile along with a surfactant and a cosolvent. Maximal drug solubility was observed in Peceol (i.e., lipid), Tween 80 (i.e., surfactant) and Transcutol HP (i.e., cosolvent),

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