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अनुसंधान के क्षेत्र में उत्कृष्ट उपलब्धियों के लिए  
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सीएसआईआर-निसप्र

## New polymorphic forms of Lenvatinib mesylate and process for their preparation

Madhavkumar Trivedi<sup>a</sup>, Rajendra Chavda<sup>b</sup>, Harshad Kathrotiya<sup>b</sup>, Pratik Vora<sup>c</sup> & Gaurang G Dubal<sup>\*a</sup>

<sup>a</sup>Department of Chemistry, School of Science, RK University, Rajkot 360 020, Gujarat, India

<sup>b</sup>Research and Development, BDR Lifesciences Pvt Ltd, Gotri, Vadodara 390 021, Gujarat, India

<sup>c</sup>Faculty of Pharmacy, Parul Institute of Pharmacy, Parul University, Vadodara 391 760, Gujarat, India

E-mail: dr.gaurangdubal@gmail.com

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This work involves creating and characterizing stable polymorphic forms of Lenvatinib mesylate while ensuring pharmaceutical purity. The process is optimized and uses various analytical techniques such as thermal analysis, powder X-ray diffraction, and differential scanning calorimetry to examine these forms. Using these techniques, these forms can be synthesized on a commercial scale with high efficiency and purity, including two new polymorphs (form 1 and 2) that are highly pure. These findings provide valuable insights into preparing and characterizing stable Lenvatinib mesylate forms, beneficial for developing new pharmaceutical products in the industry. The recognition of a newly discovered, stable polymorph of the anti-cancer molecule marks a crucial milestone in the domain of drug development. This finding not only enhances our comprehension of the molecular characteristics of the compound but also carries the potential for revolutionary effects on cancer therapy in terms of molecular stability.

**Keywords:** Lenvatinib mesylate, Lenvatinib, Powder X-ray diffraction, Thermal analysis, Differential scanning calorimetry