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(54) **Title**: OPLOPHORUS-DERIVED LUCIFERASES, NOVEL COELENTERAZINE SUBSTRATES, AND METHODS OF USE

(57) **Abstract**: An isolated polynucleotide encoding a modified luciferase polypeptide and substrates. The OgLuc variant polypeptide has at least 60% amino acid sequence identity to SEQ ID NO: 1 and at least one amino acid substitution at a position corresponding to an amino acid in SEQ ID NO: 1. The OgLuc variant polypeptide has at least one of enhanced luminescence, enhanced signal stability, and enhanced protein stability relative to the corresponding polypeptide of the wild-type Oplophorus luciferase.