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(57) Abstract :
ABSTRACT A SYSTEM AND METHOD FOR ENZYME THERMO STABILITY PREDICTION AND SEQUENCE GENERATION The present invention relates to a system and method for enzyme thermo stability prediction and sequence generation. This integrates advanced machine learning models, generative algorithms, and evolutionary approaches to predict and design enzyme sequences with enhanced thermal stability. Users input a protein sequence and pH value, leveraging the tool's capabilities to accurately forecast enzyme thermal stability, outperforming conventional methods. Notably, the integration of generative models and evolutionary method automates the intricate process of designing novel enzyme sequences, a key differentiator from traditional approaches. The user-friendly command-line interface and customization options enhance accessibility, catering to a diverse audience. To be published with Figure 1

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