Manganese-Catalyzed Late-Stage C–H Diversification of Peptides: Modular Synthesis of Fluorogenic Probes

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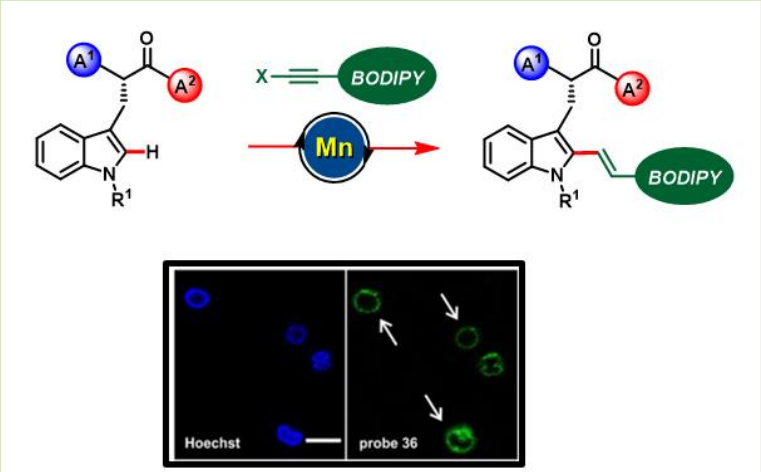
Bioorthogonal late-stage diversification of amino acids and peptides bears enormous potential for drug discovery and molecular imaging. Despite major accomplishments, these strategies largely rely on traditional, lengthy prefunctionalization methods, heavily involving precious transition-metal catalysis. Herein, we report on a resource-economical manganese (I)-catalyzed C–H fluorescent labelling of structurally complex peptides ensured by direct alkynylation and alkenylation manifolds. This modular strategy sets the stage for unravelling structure-activity relationships between novel fluorophores towards the rational design of new BODIPY fluorogenic probes for real-time analysis of immune cell function.



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