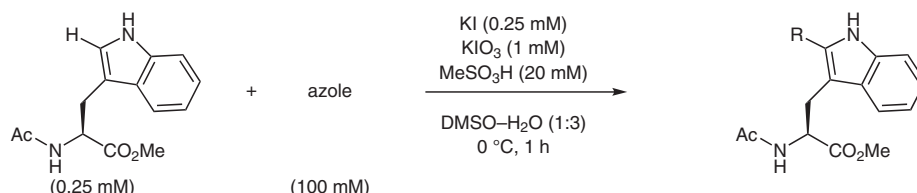


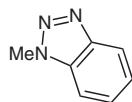
S. WATANABE, Y. WADA, M. KAWANO, S. HIGASHIBAYASHI, T. SUGAI, K. HANAYA  
(KEIO UNIVERSITY, TOKYO, JAPAN)  
Selective Modification of Tryptophan in Polypeptides via C–N Coupling with Azoles Using in situ Generated Iodine-Based  
Oxidants in Aqueous Media  
*Chem. Commun.* **2023**, 59, 13026–13029, DOI: 10.1039/d3cc03731b.

## Late-Stage Modification of Oligopeptide Trp Units with Azoles



Selected examples:

R =



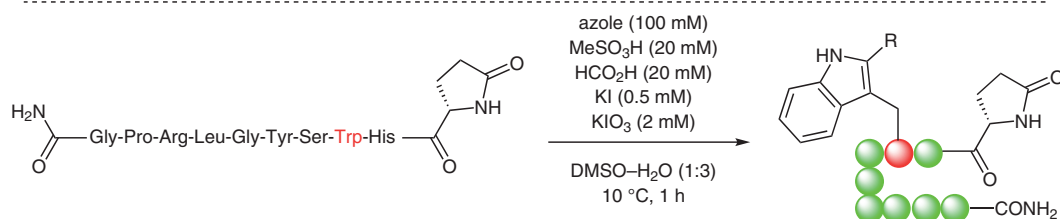
86% yield (>95% yield)



73% yield<sup>a</sup> (>95% yield)

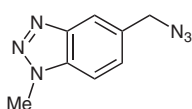
Conversion of Trp were shown in parentheses.

<sup>a</sup> KI (0.5 mM) and KIO<sub>3</sub> (2 mM) and DMSO–H<sub>2</sub>O (95:5) were used instead of standard conditions.

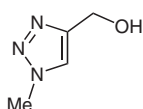


Selected examples:

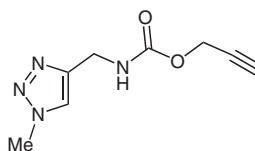
R =



62% yield



55% yield<sup>a</sup>



66% yield<sup>a</sup>

<sup>a</sup> H<sub>2</sub>O was used as solvent. The reaction was performed at 0 °C for 2 h.

**Significance:** The late-stage modification of oligopeptides is a straightforward strategy for the preparation of bioactive compounds. The authors have demonstrated a C–N coupling reaction in which azoles are incorporated into the Trp units of oligopeptides.

**Comment:** The modification of Trp proceeded in aqueous media and various azole derivatives could be applied for this method by using a combination of KI, KIO<sub>3</sub>, and methanesulfonic acid.