

IMPACT OF STERIC EFFECTS IN SOLID-PHASE AZA-PEPTIDE BOND SYNTHESIS

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Aza-peptides are promising drug candidates as they are metabolically more stable than their parent-peptides due to structural conformations.¹ However, differently from peptide synthesis by SPPS method aza-peptide synthesis is complicated, therefore information about their biological activity is limited.

Our research group has investigated aza-peptide bond formation kinetics by the SPPS method using model-aza-peptides, as it is the most critical step in the synthesis of aza-peptide. The significance of the steric hindrance caused by the amino acid side group (R') as well as by the aza-amino acid side group (R) on the coupling reaction efficiency was observed. The results have shown that the steric bulkiness of aza-amino acid side chain influences the aza-peptide bond formation more substantially and is principal contributor to the slowness of this coupling reaction.^{2,3} Hence, there is still a need to develop more efficient methods for achieving aza-peptide bond synthesis.

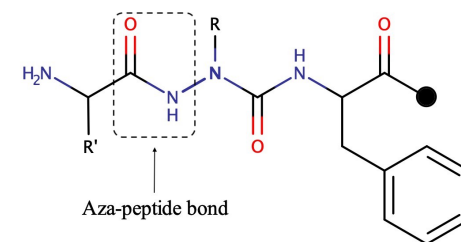


Fig.1 Model-aza-peptide.

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