

29th Symposium on Chemistry Postgraduate Research in Hong Kong

Synthesis of Oxazoliniums via Rhodium(III)-catalyzed C-H Functionalization and Their Application in Peptide Modification

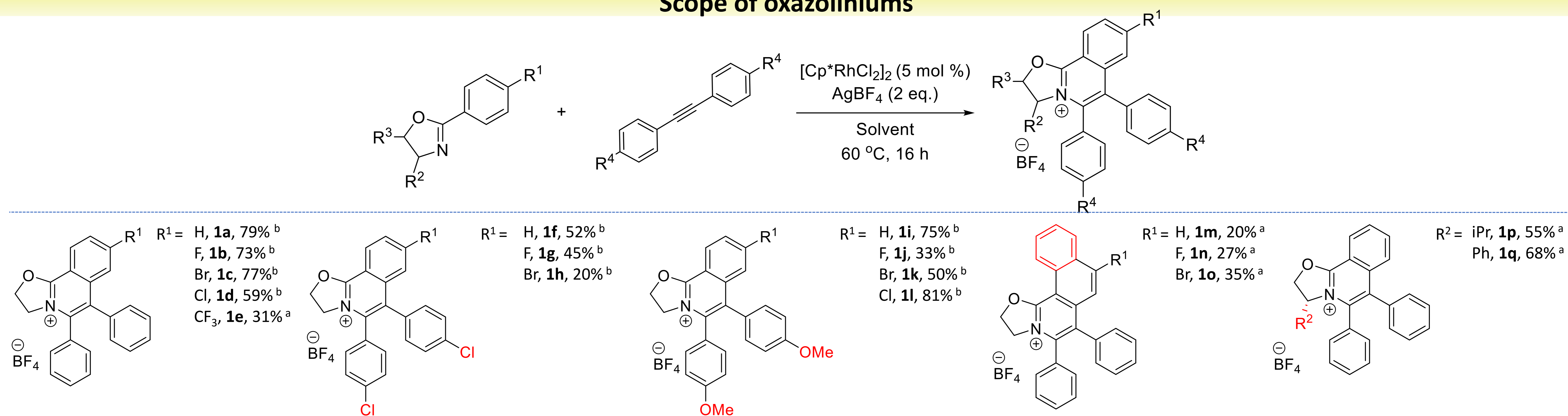
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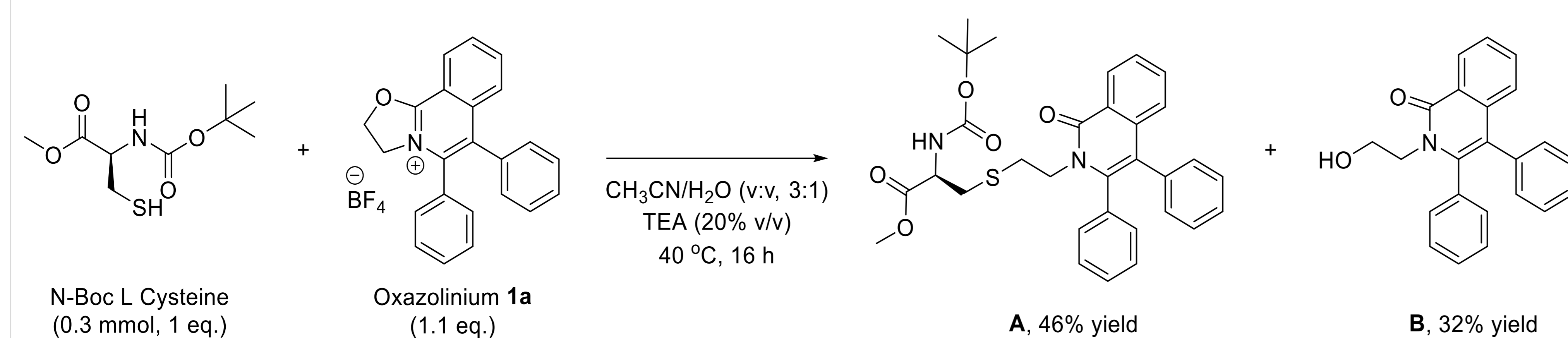
Introduction

Transition metal-catalyzed C-H functionalization has been used as a key strategy for the synthesis of heterocycles. Among the transition metal catalysts being used, rhodium(III) catalyst is one of the type that has been widely employed. In a number of study concerning N-heterocycle construction, only limited study reported coupling of phenyl oxazoline with internal alkynes and the potential application of the product oxazolinium has not yet reported. Here we present the synthesis of a scope of oxazoliniums via rhodium(III)-catalyzed C-H functionalization, and the oxazoliniums were subjected to peptide modification. LC-MS/MS analysis confirmed that the modification occur exclusively at the cysteine residue.

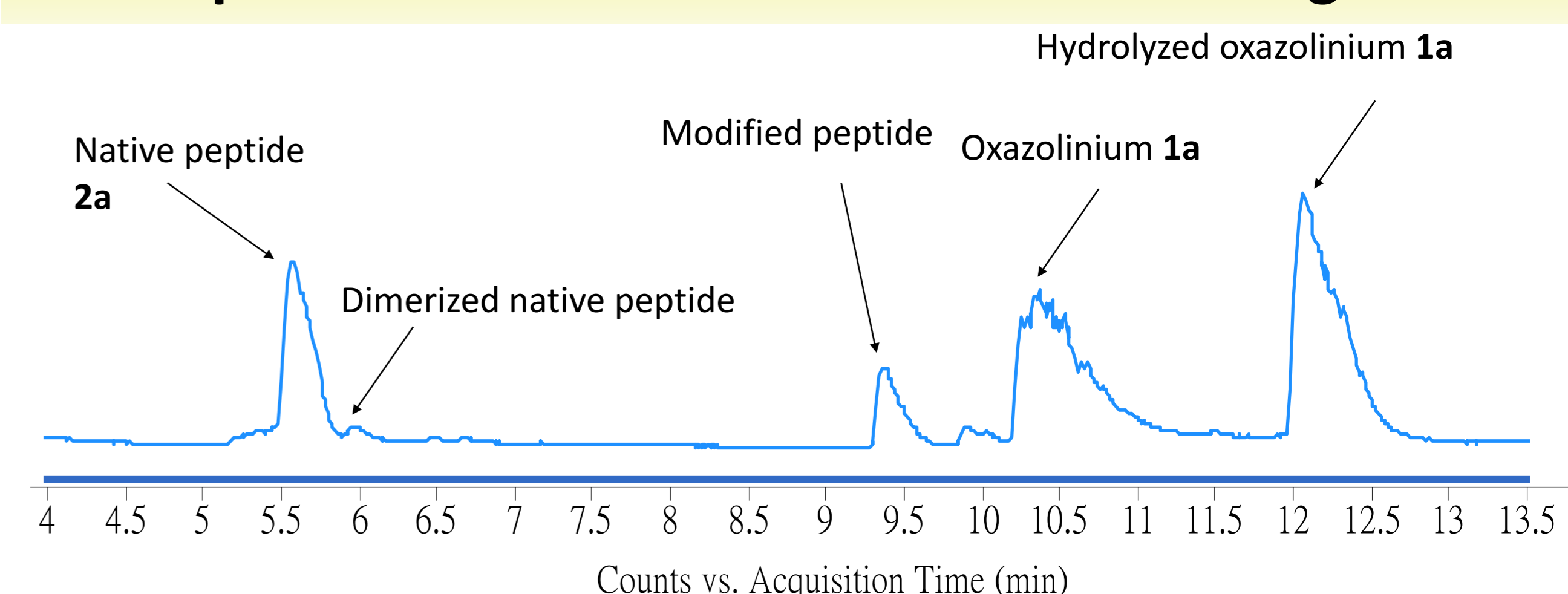
Scope of oxazoliniums



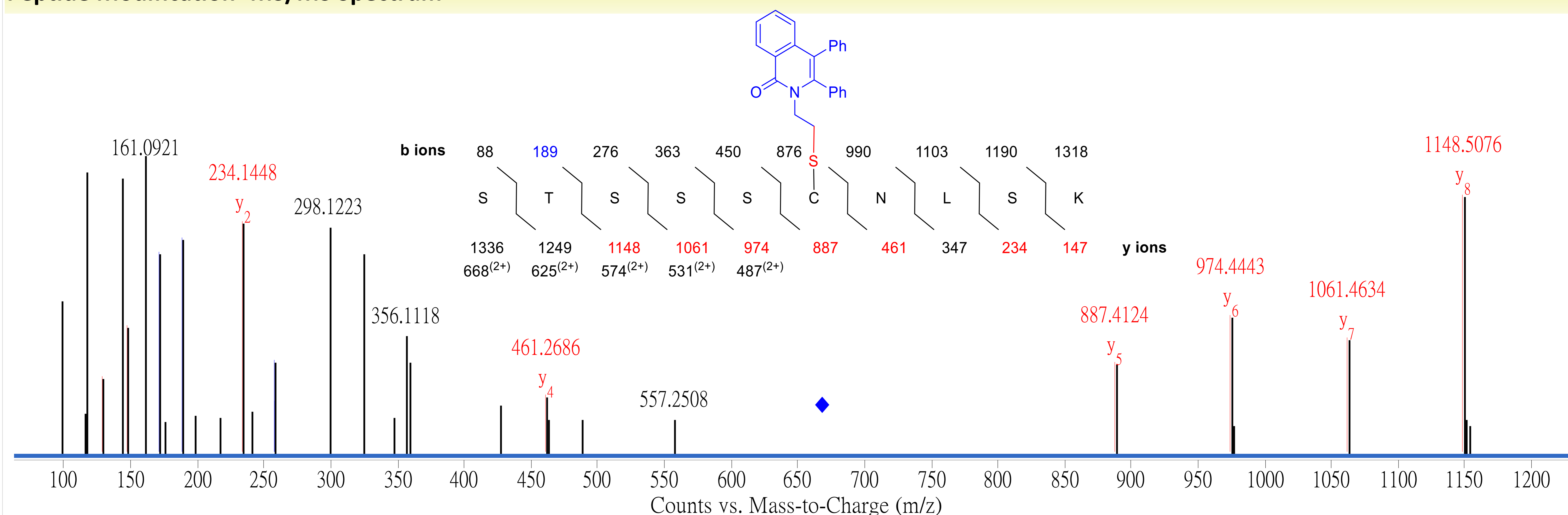
Model Reaction for Peptide Modification



Peptide Modification- Total Ion Chromatogram



Peptide Modification- MS/MS Spectrum



Acknowledgements

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