

Reaction Mechanism and Kinetics of the Traceless Staudinger Ligation

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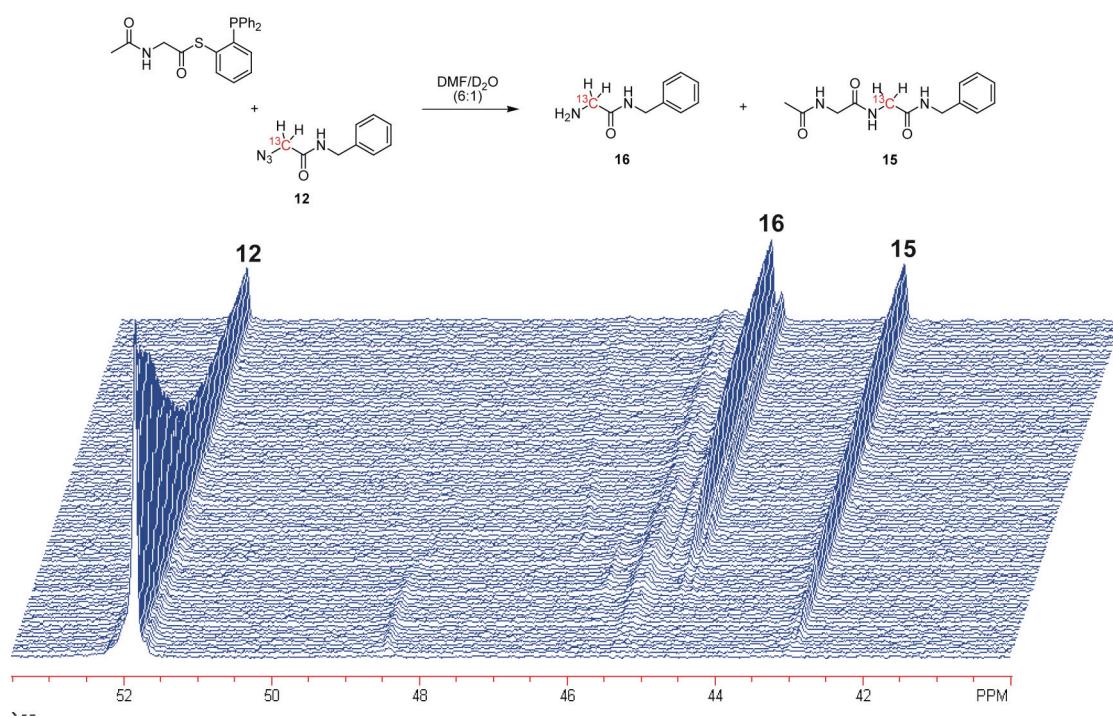


Figure S1. ¹³C NMR Assay of a Traceless Staudinger Ligation mediated by phosphinothiophenol **23**. The reaction was performed at room temperature with reagent concentrations of 0.175 M. Ninety spectra were acquired over a 12-h time course, scaled to enable the calculation of the second-order rate constant and reaction yield (Table 2). Peak integrations were calibrated with a standard curve generated with purified ¹³C-labeled species.

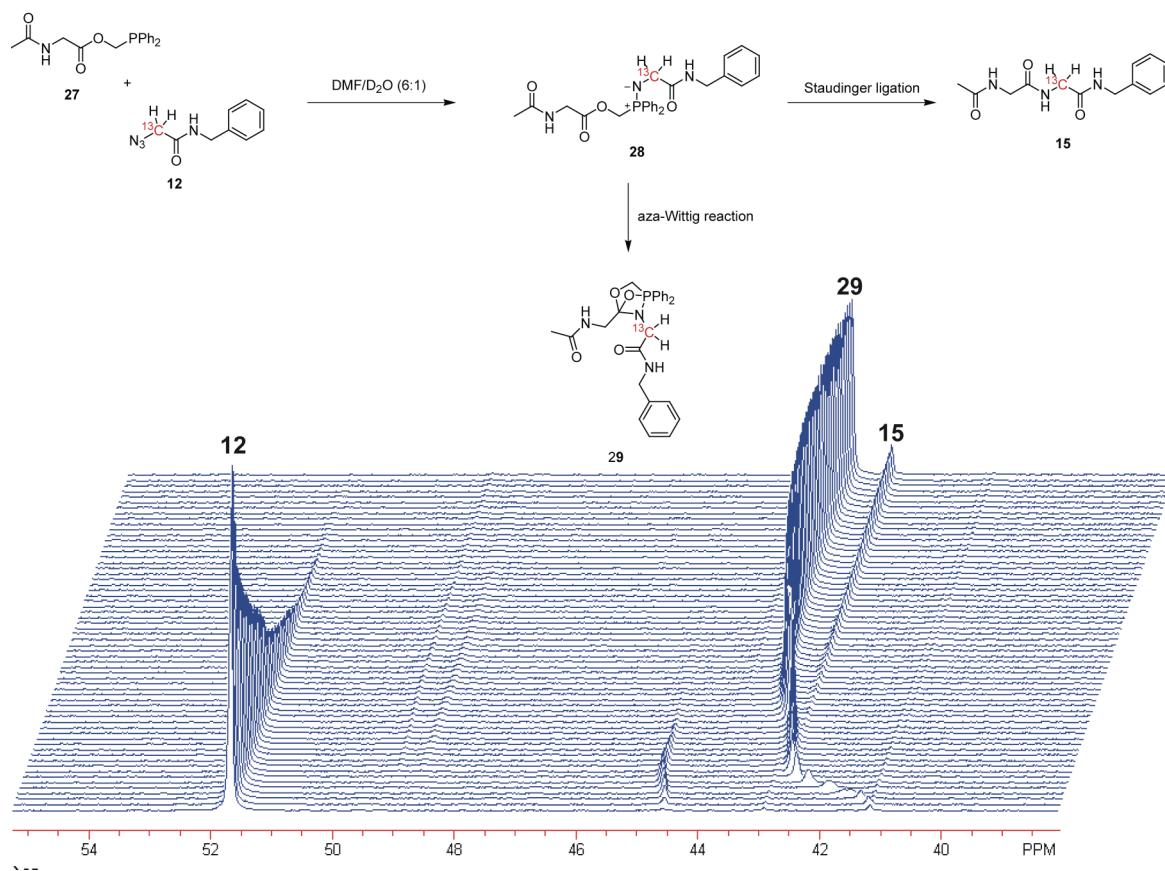


Figure S2. ^{13}C NMR Assay of a Traceless Staudinger Ligation mediated by phosphinoalcohol **24**. The reaction was performed at room temperature with reagent concentrations of 0.175 M. Ninety spectra were acquired over a 12-h time course, scaled to enable the calculation of the second-order rate constant and reaction yield (Table 2). Peak integrations were calibrated with a standard curve generated with purified ^{13}C -labeled species.

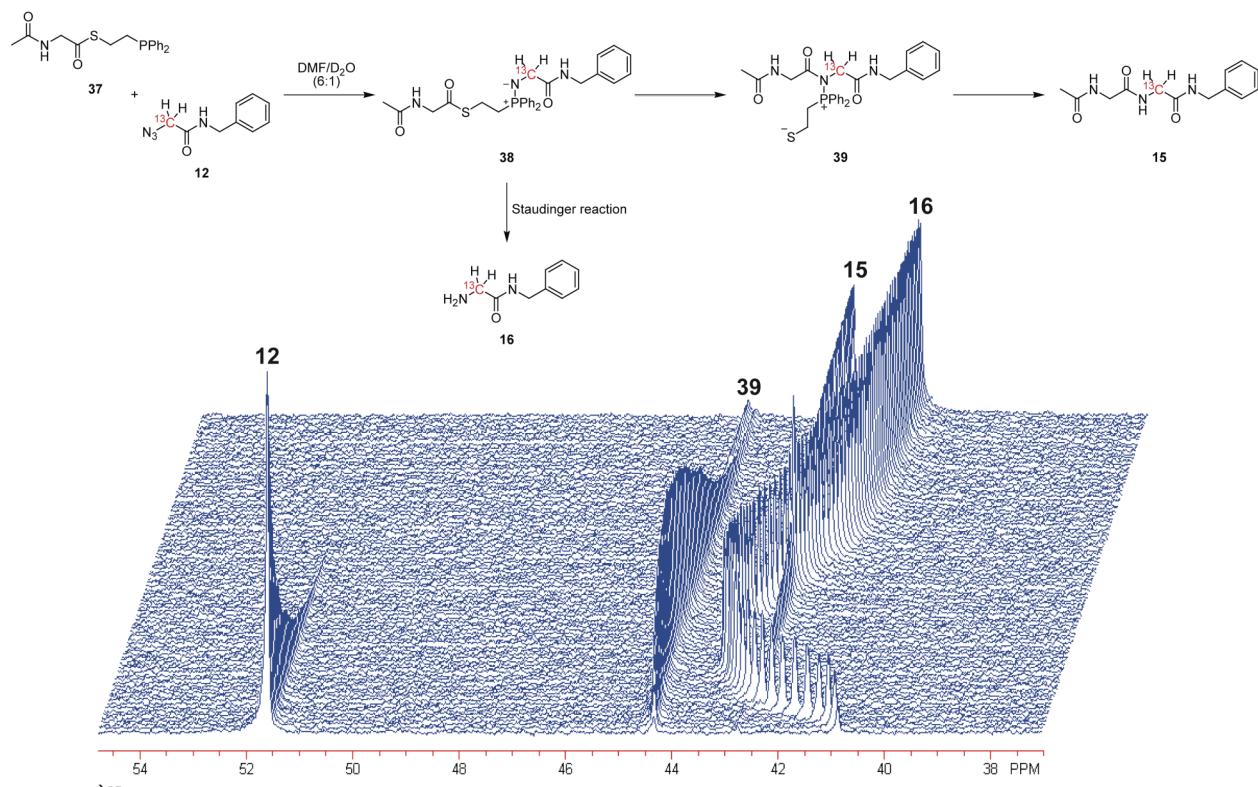


Figure S3. ^{13}C NMR Assay of a Traceless Staudinger Ligation mediated by phosphinothiol **25**. The reaction was performed at room temperature with reagent concentrations of 0.175 M. Ninety spectra were acquired over a 12-h time course, scaled to enable the calculation of the second-order rate constant and reaction yield (Table 2). Peak integrations were calibrated with a standard curve generated with purified ^{13}C -labeled species.

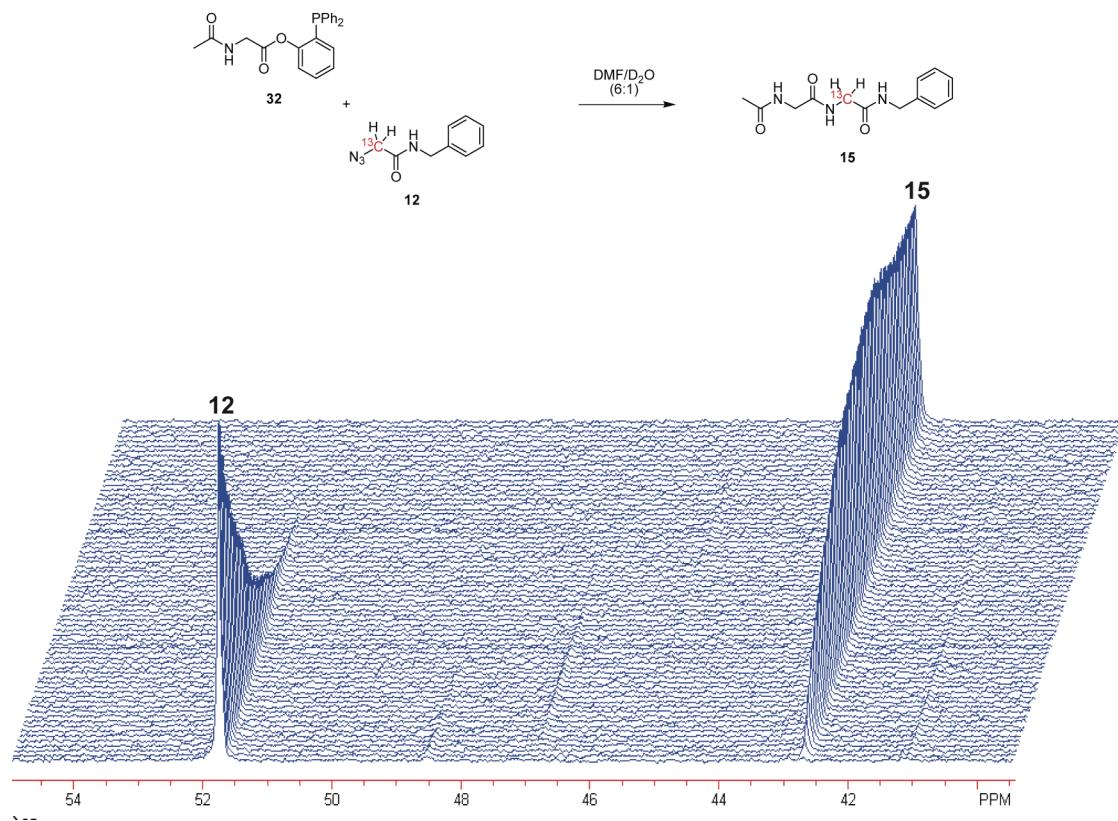


Figure S4. ¹³C NMR Assay of a Traceless Staudinger Ligation mediated by phosphinophenol **26**. The reaction was performed at room temperature with reagent concentrations of 0.175 M. Ninety spectra were acquired over a 12-h time course, scaled to enable the calculation of the second-order rate constant and reaction yield (Table 2). Peak integrations were calibrated with a standard curve generated with purified ¹³C-labeled species.