

**CHEMOSELECTIVE SEQUENTIAL “CLICK” LIGATION USING UNSYMMETRICAL BISAZIDES.** Zhao Yuan, Gui-Chao Kuang, Ronald J. Clark, and Lei Zhu, Department of Chemistry and Biochemistry, Florida State University, Tallahassee, FL 32306-4390.

A procedure for one-pot, three-component conjugation via two triazolyl linkages will be discussed. The bisazide linkers contain chelating and non-chelating azido groups, which offer different reactivities in copper(I)-catalyzed azide-alkyne cycloaddition (CuAAC) reactions. The chelating azido group undergoes the CuAAC reaction with an alkyne in the presence of  $\text{Cu}(\text{OAc})_2$ , while the non-chelating azide requires the company of a reducing reagent, such as sodium ascorbate, to be reactive. Also capitalizing the reactivity gap between aromatic and aliphatic alkynes, a bistriazole molecule can be easily generated with complete control on regioselectivity by mixing two alkynes and a bisazide linker in a single reaction container (i.e. one-pot). This procedure is also applicable in aqueous solution at neutral pH, which may lend utilities in conjugation reactions under physiological conditions.