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Copper(I) Catalyzed Click Chemistry

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Poster Presentation P20

COPPER(I) CATALYZED CLICK CHEMISTRY

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Several chemical reactions were performed to explore click chemistry based on the copper(I) catalyzed Huisgen 1,3-dipolar cycloaddition reaction between azides and alkynes. These reactions have been widely used in both medicinal and materials chemistry and have potential utility for the assembly of supramolecular systems based on macrocycles. Benzyl azide was prepared and new methods for its purification were explored. Benzyl azide and tripropargylamine were reacted to produce tris[(1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl]amine (TBTA), a ligand that stabilizes the copper(I) catalyst that is commonly used in azide-alkyne cycloadditions. Reactions between benzyl azide and tripropargyl amine as well as reactions between benzyl azide and aromatic, primary or tertiary amines were attempted under a variety of reaction conditions. All products were analyzed by GC-MS and NMR spectroscopy.