It is estimated that ~1% of the population is affected by autism spectrum disorders (ASDs). These conditions are generally characterized by two essential symptoms; impaired communications and social interactions as well as restricted and repetitive behaviors. It is evident that many of those suffering from ASDs have an increased levels of the neurotransmitter glutamate. Glutamate plays a large role in the central nervous system as being the key excitatory neurotransmitter for nearly 90% of the neurons in the brain. There are multiple different types of glutamate receptor, with the metabotropic glutamate receptor 5 (mGluR5) being of particular interest in ASDs. It is believed that drugs that target mGluR5 and inhibit its function could potentially lessen some of the traits associated with ASDs. This project uses a three-step reaction sequence to synthesize substituted 1,4-triazoles as potential inhibitors to mGluR5. The first reaction involves synthesizing various substituted benzyl azides via treating benzyl halides with sodium azide and microwaving. The azides were synthesized with crude yields ranging from 70.0% to 82.9%. The 2nd step involves synthesizing substituted benzylic terminal alkynes via treating a solutions of benzyl halides with sodium acetylide and refluxing. This method does not appear to be an effective method of synthesizing benzylic terminal alkynes. Crude yields of these reactions ranged from 0% to 74.5%.