MECHANOCHEMICAL SYNTHESIS OF 2,2'-BIPYRIDINE COMPLEXES

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Since its discovery in 1889 by Blau, bipyridine has been one of the most widely researched chelate systems. Coordination complexes of bipyridine have been utilized in various commercial applications such as luminescent devices and photonics. In the laboratory a variety of bipyridine complexes have been prepared and numerous examples are known for each periodic group. These complexes are well known both for the stability and their frequently intense colors. A series of bipyridine complexes have been prepared mechanochemically and then characterized by powder X-ray diffraction. Preparation of bipyridine complexes by mechanochemical processes in a high-speed ball mill provides a novel synthetic route to the anhydrous species that is both solvent-free and much faster than previous methods.