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RNA Crystallization: The Truths and the Tricks of the Trade. Barbara L. Golden, Dept. of Biochemistry, Purdue Univ., 175 S. University St., West Lafayette, IN 47907.

The field of RNA structure has exploded in recent years, in part due to advances in crystallography of RNA molecules. This phenomenon can largely be attributed to the development of three modern methods: 1) large scale *in vitro* RNA synthesis, 2) cryocrystallography, and 3) high-intensity synchrotron beamlines. Milligram quantities of RNA can be now routinely synthesized using either chemical or enzymatic syntheses, making it feasible to carry out routine crystallization experiments on RNA. This has allowed crystals of RNA to be readily obtained. Generally, RNA crystals tend to be susceptible to radiation damage and to diffract X-rays more weakly than their protein counterparts. Fortunately, flash freezing and the high-intensity X-ray sources have overcome many of these difficulties. As a result of these advances, we now have a database of RNA structures that span from simple duplexes and hairpins to complex ribozymes and ribosomes. In this talk, the methods developed for preparation and crystallization of RNAs will be discussed.