Another parameter commonly manipulated in crystallization experiments is solvent polarity. Table 10.1 on p. 641 shows some of the most common crystallization solvents arranged by order of decreasing polarity going from top to bottom. Water, the most polar, is also one of the most commonly used solvents. Other solvents commonly used in laboratory settings are alcohols (ROH), halides (RX), ethers (ROR), and alkanes (the least polar, at the bottom of the list).

Another way to manipulate the polarity of the solvent is by using solvent mixtures. Two solvents of different polarities are mixed in order to achieve an intermediate degree of polarity that depends on their relative proportions. Some solvent pairs commonly used in crystallization are shown on p. 667. Mixtures of water and alcohol, or alcohol and ether are among the most common.