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Uric Acid Crystal Growth. Jennifer A. Swift, Ryan E. Sours, Dorothy A. Fink, Kristin A. Cox and Catherine E. Ford, Georgetown Univ., Dept. of Chemistry, 37th & O Strs NW, Reiss 647, Washington, DC 20057-1227 USA.

The unregulated crystallization of uric acid in the human body can lead to grainy precipitates in the renal tract and symptoms associated with the disease gout. A series of in situ atomic force microscopy (AFM) studies on uric acid single crystal surfaces have provided detailed molecular-level insight into the growth rates and mechanisms of this important biomaterial under model physiologic conditions. Crystal growth experiments performed in the presence of various synthetic dyes and/or natural pigments afford a complementary macroscopic view of the crystal growth process. The average orientations of dyes trapped in uric acid matrixes have been determined spectroscopically. The direct influence of the dyes on the emerging crystal surface topology and kinetics during growth has been elucidated with AFM methods by comparison with data obtained under model solution conditions.

For additional information, see *J. Am. Chem. Soc.* 124, 8630-8636 (2002) or *Chem. Mater.* 15, 2718-2723 (2003).