Chaperone Compounds for Co-crystallization of Organics

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Modern instrumentation and processing techniques enable high-quality 3D structure analysis – including absolute structure determination – often in less than an hour, faster and more comprehensively than many spectroscopic methods can even start to achieve. However, large numbers of small or highly flexible organic molecules remain intractable to even the most sophisticated crystallization methods. Our new set of chemical chaperones for co-crystallization, developed by the University of Stuttgart\textsuperscript{[1]} offers a new alternative to other methods, such as the crystal-sponge approach\textsuperscript{[2]} and can significantly increase the probability of successful crystallization and provide faster access to the absolute 3D structure of an organic analyte:

\begin{itemize}
  \item The chaperone method is fast and easy to use
  \item Structures in hours rather than weeks
  \item Small quantities of analyte required
  \item Excellent quality crystals
  \item Sample screen of 52 organic compounds
    \begin{itemize}
      \item Diffraction-quality crystals in 88\% of cases
      \item High resolution X-ray structures in 77\% of cases
      \item The chaperone compounds are highly stable
      \item 100\% analyte occupancy in the crystal guarantees reliable determination of the absolute configuration
    \end{itemize}
\end{itemize}

We will discuss and demonstrate the features in detail along the diastereomers of Limonene including a demonstration of the crystal growth.

\textsuperscript{[2]} Patent pending.

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