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## **Powder X-Ray Diffraction in Drug Discovery and Development**

The knowledge of solid-state properties in an early stage of drug development helps to avoid manufacturing problems, to fine-tune the performance of drugs and provides space for innovations. By definition, every new crystal form is novel and not possible to predict how many different crystal forms can be prepared, how to prepare any crystal forms and the properties of any crystal forms as yet unknown. X-ray powder diffraction techniques represent a powerful probe to control the crystal structures of novel materials. XRPD analysis give information about crystalline phase, crystallinity degree and polymorphic contamination, allowing a more accurate design of the drug properties.