

NON-DESTRUCTIVE FINGERPRINTING OF PHARMACEUTICAL COMPOUNDS WITH A LOW-COST, SMALL FOOTPRINT BENCHTOP XRD SYSTEM, THE BTX

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All drug formulations have a unique fingerprint of both active and inactive ingredients that identifies the efficacy and brand of each drug. Pharmaceutical compound fingerprinting is commonly done using X-Ray Diffraction (XRD). Drug manufacturers have a responsibility to consumers: To use the correct formulations of their products to be sure that they are safe, and doing what they are intended to do. Incorrect formulations containing foreign or substitute ingredients can jeopardize a patient's well-being. Additionally, when incorrect or counterfeit formulations are distributed under a brand name, the reputation of the manufacturer is at risk. Drug manufacturers must protect their business interests by ensuring that the correct formulations of their products are being distributed. This will ensure that patients are receiving the correct formulation, that their branding isn't compromised by counterfeiters, and that they have documented fingerprint records of all their drug and formulation steps. Data will be presented that shows and describes how non-destructive fingerprinting method for drug formulations is essential for pharmaceutical manufacturers. It offers factual support for patent and other legal records as well as retention of the original powder material if needed. A drug formulation, at any stage, can be quickly scanned for its fingerprint by measuring its crystalline structure with XRD. The BTX combines both XRD fingerprinting and XRF elemental ID to perform rapid, thorough identification with a unique sample handling system in a low-cost, small footprint benchtop configuration.