

**RAPID TRIGLYCERIDE POLYMORPH ANALYSIS USING A NEW GENERATION OF 2D BENCHTOP
pXRD**

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X-ray diffraction is a technique that has been used for years in the food industry as a means of identifying and understanding the molecular interactions of fats and oils and their physical characteristics. The consistency, melting temperature, and amount of air in an oil are dependent on the triglyceride polymorph formed; alpha, beta prime, or beta. Determining which triglyceride polymorphs are present and at what concentration in a fast, consistent fashion can help establish a unified production process and eliminate any unpalatable or cosmetically negative aspects. Utilizing a simplified rotating sample holder, a smear of oil can be analyzed by a new generation of 2-dimensional benchtop XRD systems and a relative intensity ratio based on internal standards. This combination can yield a semi-quantitative composition of the triglyceride polymorphs. With reduced analysis time, sample throughput is dramatically sped-up to better match that of the production line.