**Development of aerated oleogel/hydrogel mixtures suitable for Food 3D Printing of personalized cannabis edibles.**

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In this study, Cannabis Seed Oil (CSO) oleogel structured by Glycerol Monostearate (GMS) was mixed with Xanthan Gum (XG) hydrogel using a syringe-to-syringe apparatus. This process enables the simultaneous mixing of the two gels and the incorporation of air in a reproducible and accurate manner. The selection of the hydrogel was based on the existing literature.1 Different oleogel to hydrogel ratios were evaluated for their printability using a conventional benchtop food 3D printer.2 The evaluation of the mixtures was complemented by rheological studies, thermophysical studies (Differential Scanning Calorimetry DSC, Thermogravimetric Analysis TGA), Textural Analysis, Polarized Light Microscopy (PLM), Confocal Laser Scanning Microscopy (CLSM), and colour evaluation studies. Finally, the optimum formulation was evaluated for its suitability to prepare accurate dosage forms containing Active Pharmaceutical Ingredients (APIs) like the cannabinoids Cannabidiol (CBD) and Cannabigerol (CBG).

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