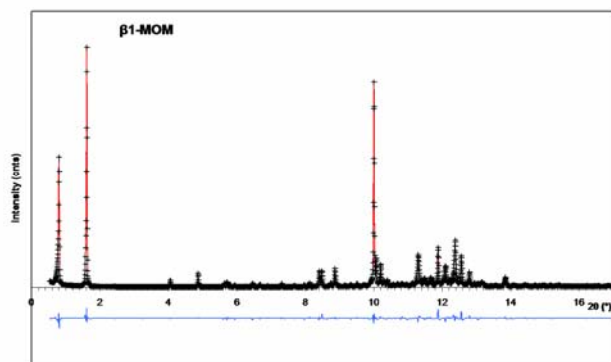
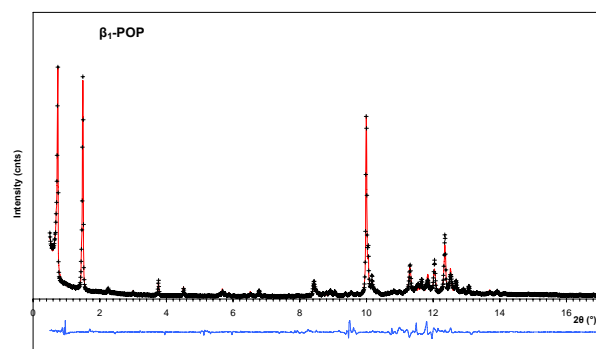


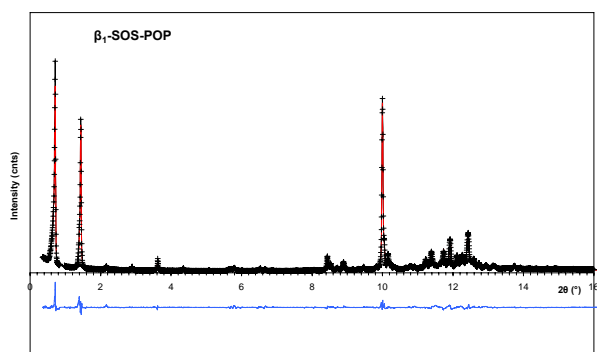
## Supplementary data: Rietveld refinement results



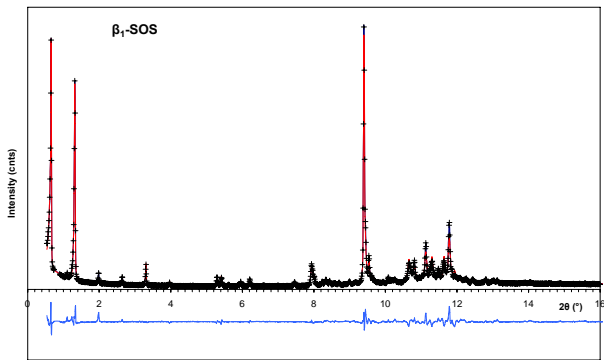
**Figure 1** Rietveld refinement results: Observed (black), calculated (red) and difference (observed-calculated, blue) diffraction patterns of the refined  $\beta_1$ -structure of MOM.



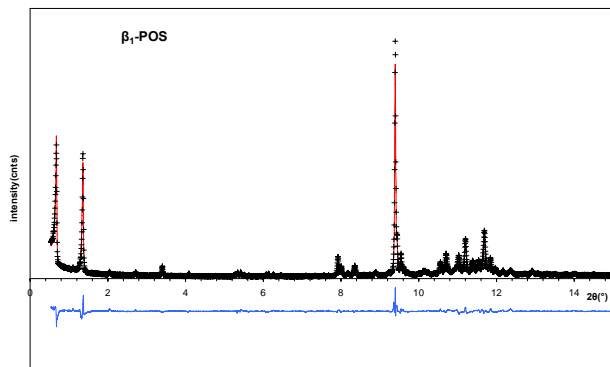
**Figure 2** Rietveld refinement results: Observed (black), calculated (red) and difference (observed-calculated, blue) diffraction patterns of the refined  $\beta_1$ -structure of POP.



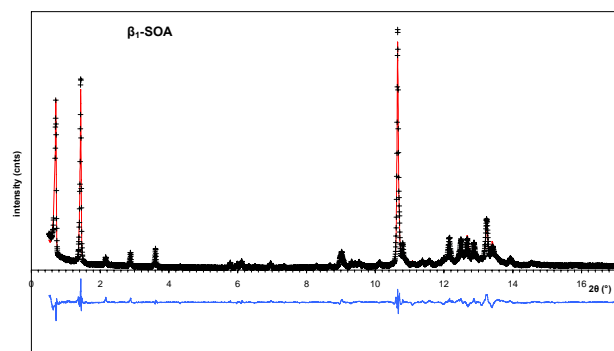
**Figure 3** Rietveld refinement results: Observed (black), calculated (red) and difference (observed-calculated, blue) diffraction patterns of the refined  $\beta_1$ -structure of SOS-POP.



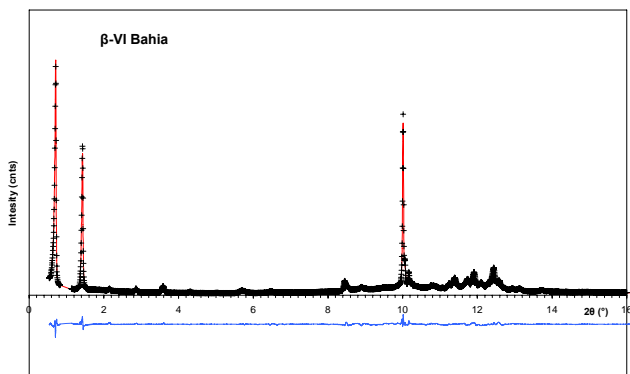
**Figure 4** Rietveld refinement results: Observed (black), calculated (red) and difference (observed-calculated, blue) diffraction patterns of the refined  $\beta_1$ -structure of SOS.



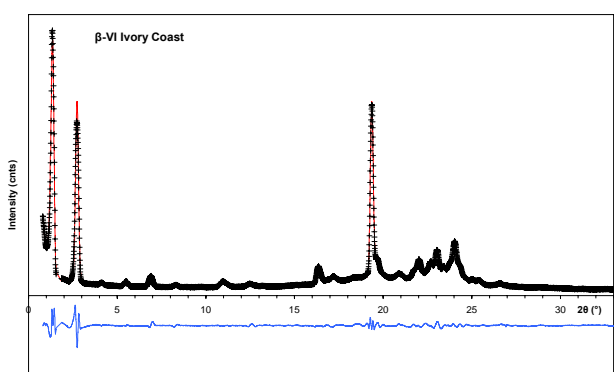
**Figure 5** Rietveld refinement results: Observed (black), calculated (red) and difference (observed-calculated, blue) diffraction patterns of the refined  $\beta_1$ -structure of POS



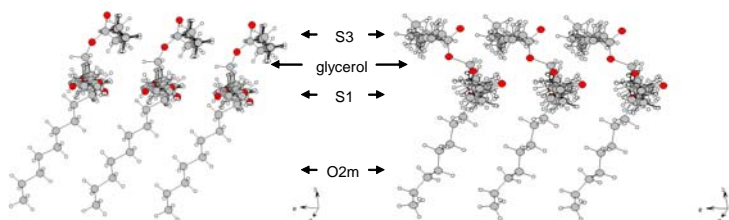
**Figure 6** (Rietveld refinement results: Observed (black), calculated (red) and difference (observed-calculated, blue) diffraction patterns of the refined  $\beta_1$ -structure of SOA)



**Figure 7** Rietveld refinement results: Observed (black), calculated (red) and difference (observed- calculated, blue) diffraction patterns of the refined  $\beta$ -VI-structure of Bahia cocoa butter



**Figure 8** Rietveld refinement results: Observed (black), calculated (red) and difference (observed-calculated, blue) diffraction patterns of the refined  $\beta$ -VI-structure of Ivory Coast cocoa butter.



**Figure 9** Different orientation of glycerol in flat conformation (left) and rotated conformation (right). View parallel to the S1 and S3m direction.