

## Supplementary Information

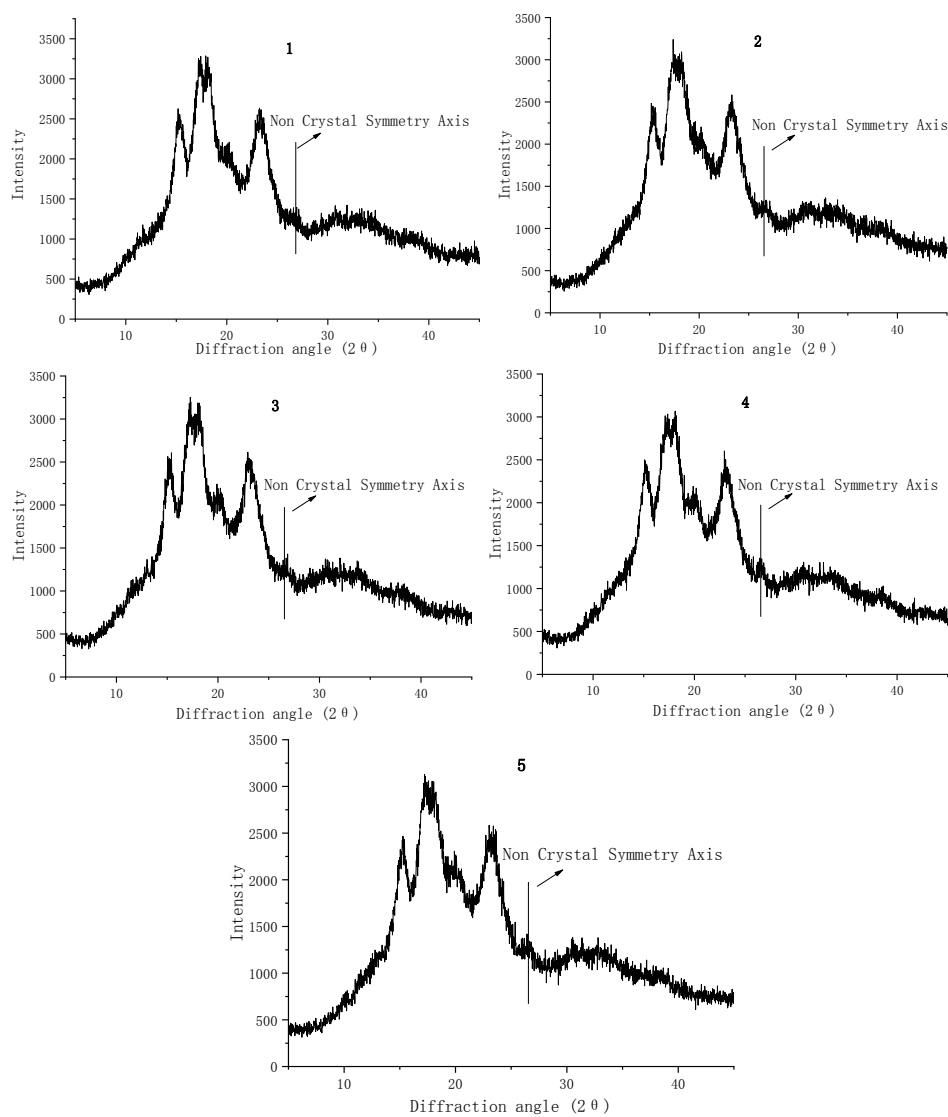
# Using carboxymethyl cellulose as the additive with enzyme-catalyzed carboxylated starch to prepare the film with enhanced mechanical and hydrophobic properties

Can Liu<sup>a</sup>, Shijiao Qin<sup>b</sup>, Jin Xie<sup>a</sup>, Xu Lin<sup>a</sup>, Yunwu Zheng<sup>a</sup>, Jing Yang, Huan Kan<sup>b\*</sup> and Zhengjun Shi<sup>a\*</sup>

*a* The Key Laboratory of State Forestry and Grassland Administration on Highly-Efficient Utilization of Forestry Biomass Resources in Southwest China, Southwest Forestry University, Kunming 650224, PR China

*b* College of Life Science, Southwest Forestry University, Kunming, 650224, PR China

### Supporting Figures



**Figure S1** X-ray diffraction pattern of starch