

## Supplementary Information

### Force-Controlled Robotic Mechanochemical Synthesis

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# 1 Experiments to estimate spring constant of the soft jig

Fig. 1 shows the graph of the spring constant obtained from experiments conducted with a force of 20 N. At 20 N, a linear relationship between force and displacement can be observed.

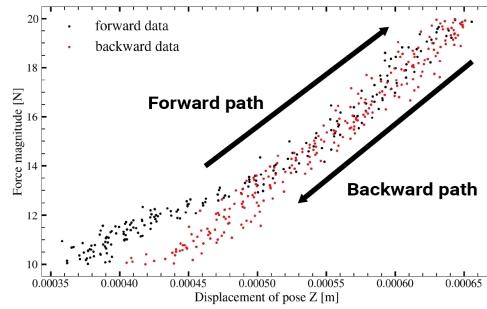


Fig. S 1: Graph illustrating the displacement of pose Z and the sensed force data. A linear relationship is observed between the displacement force magnitude.

## 2 Rietveld analysis results

The results of the Rietveld analysis for Experiment 2 and Experiment 3 are shown below.

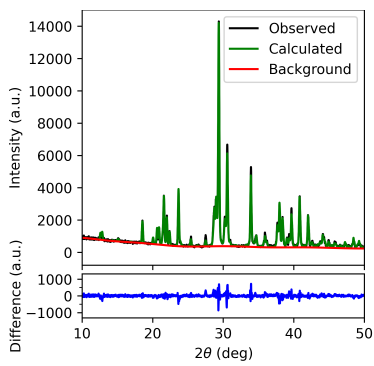


Fig. S 2: 20N 120rpm 30min

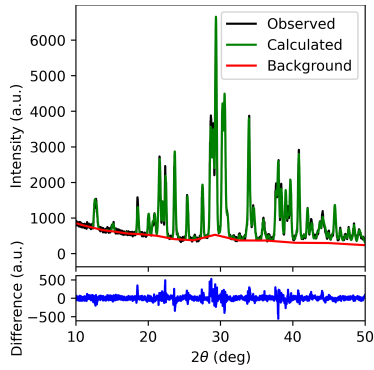


Fig. S 3: 20N 120rpm 60min

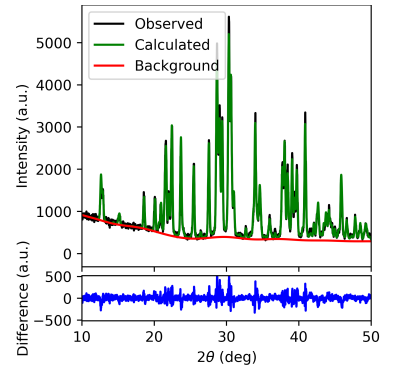


Fig. S 4: 20N 120rpm 90min

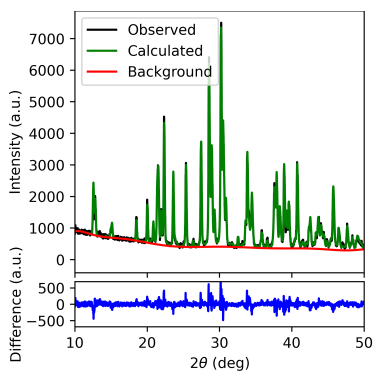


Fig. S 5: 20N 120rpm 120min

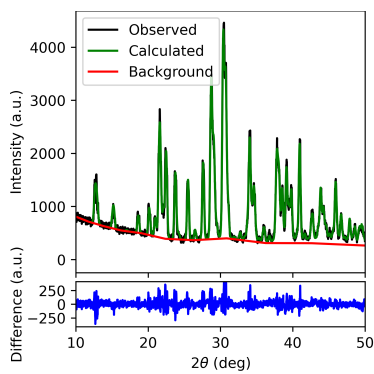


Fig. S 6: 20N 120rpm 150min

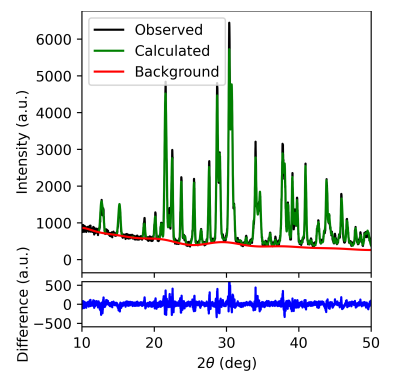


Fig. S 7: 20N 120rpm 180min

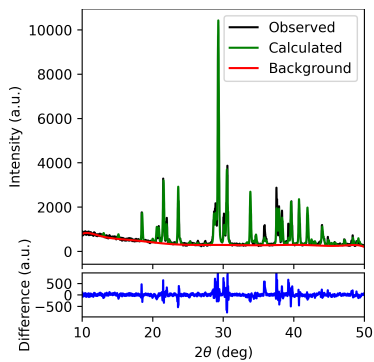


Fig. S 8: 10N 120rpm 30min

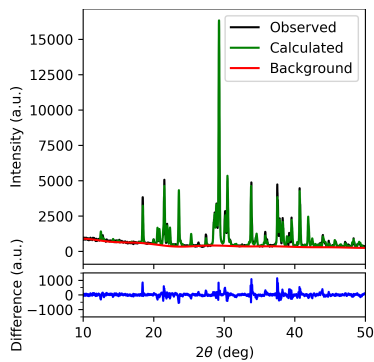


Fig. S 9: 10N 120rpm 60min

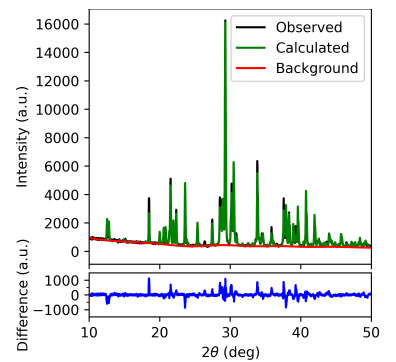


Fig. S 10: 10N 120rpm 90min

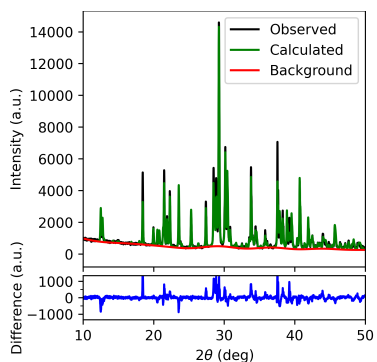


Fig. S 11: 10N 120rpm 120min

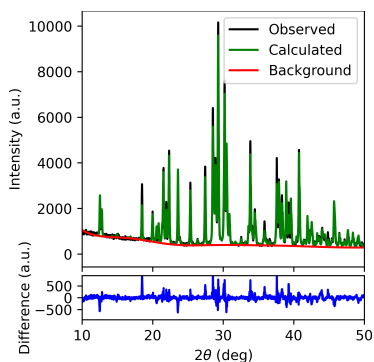


Fig. S 12: 10N 120rpm 150min

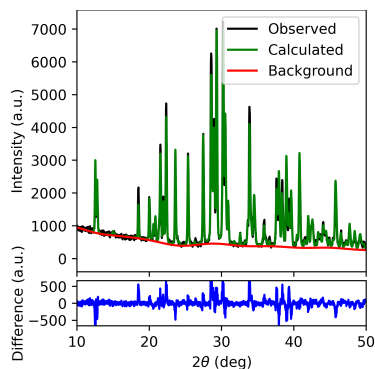


Fig. S 13: 10N 120rpm 180min

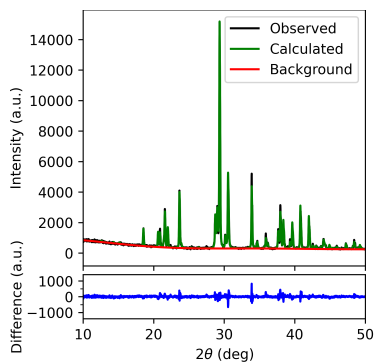


Fig. S 14: 10N 60rpm 30min

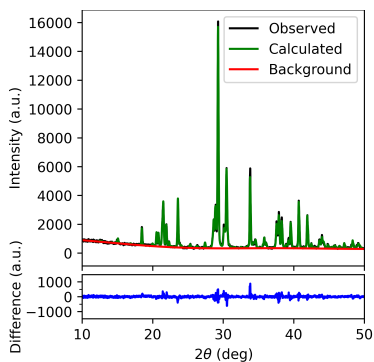


Fig. S 15: 10N 60rpm 60min

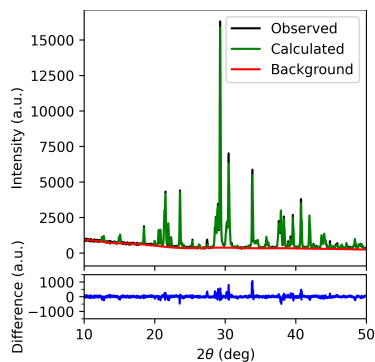


Fig. S 16: 10N 60rpm 90min

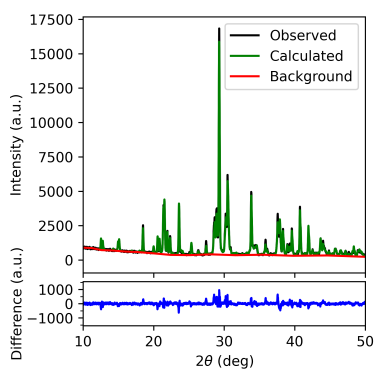


Fig. S 17: 10N 60rpm 120min

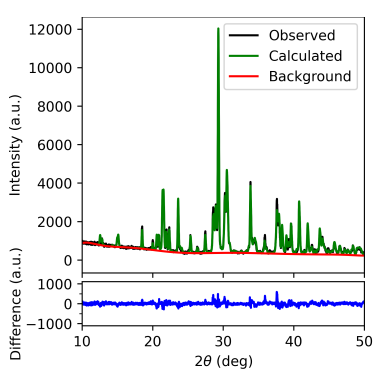


Fig. S 18: 10N 60rpm 150min

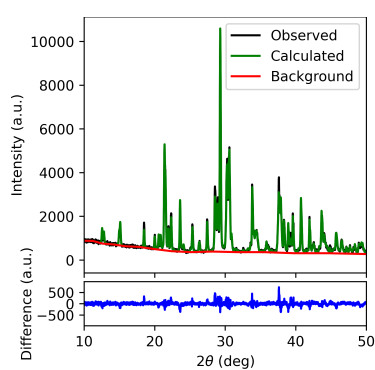


Fig. S 19: 10N 60rpm 180min