

Supporting Information for

Crystallization of Amino Acids on a 21-well Circular PMMA Platform using Metal-Assisted and Microwave-Accelerated Evaporative Crystallization

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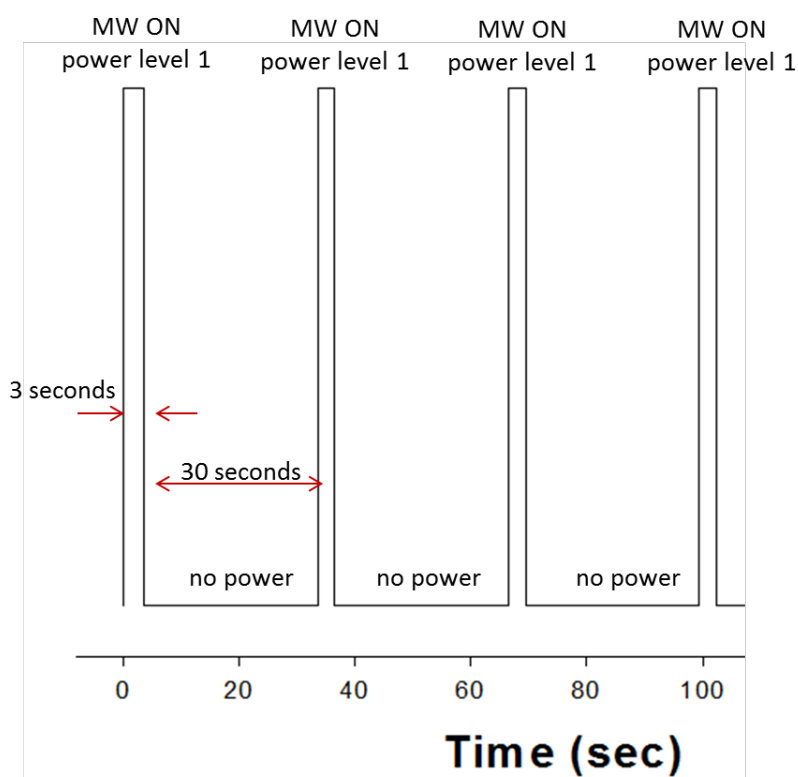


Figure S1. Observed duty cycle of Frigidaire 900 watt microwave oven at power level 1. For every three seconds the microwave released power, the microwave released no power for thirty seconds. (This figure is adapted from (CrystEngComm, DOI: 10.1039/C2CE25380A, 2012)

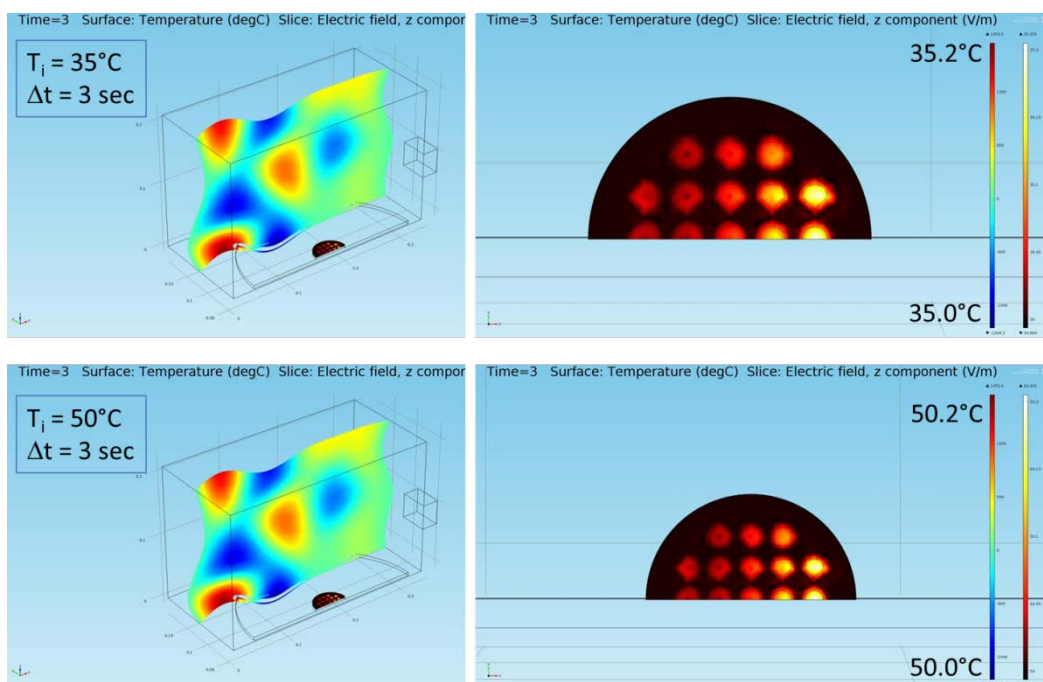


Figure S2. Theoretical calculation of heating pattern in a conventional microwave oven containing 21-well PMMA platform after 3 sec. Initial temperature (T_i , right bar) of the solution inside wells was 35°C and 50°C. Z-component of the electric field (E_z : V/m) is also shown (left bar).

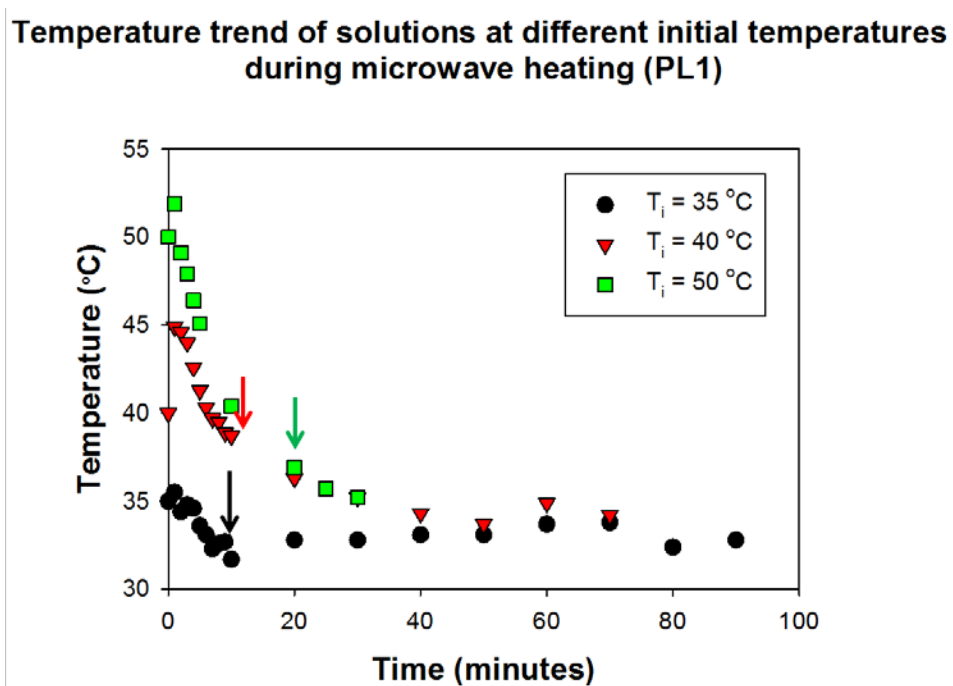


Figure S3. Observed temperature profile of a water drop on the blank PMMA platform (no silver) microwave heated in a 900 watt microwave oven at power level 1. Arrows indicate the time of significant loss (>50%) of water due to evaporation.

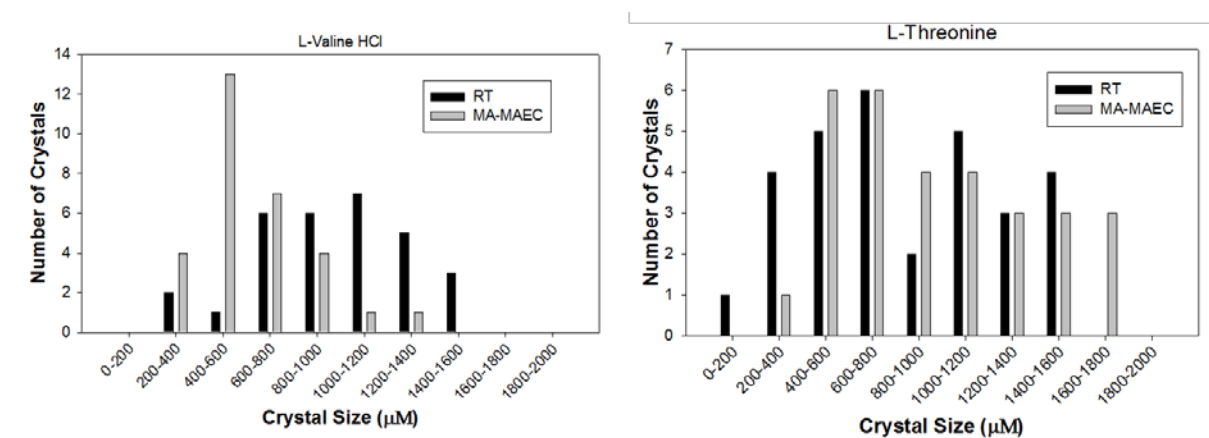


Figure S4. Size distribution (n=30) of L-Valine HCl and L-Threonine crystals grown at room temperature and using MA-MAEC.

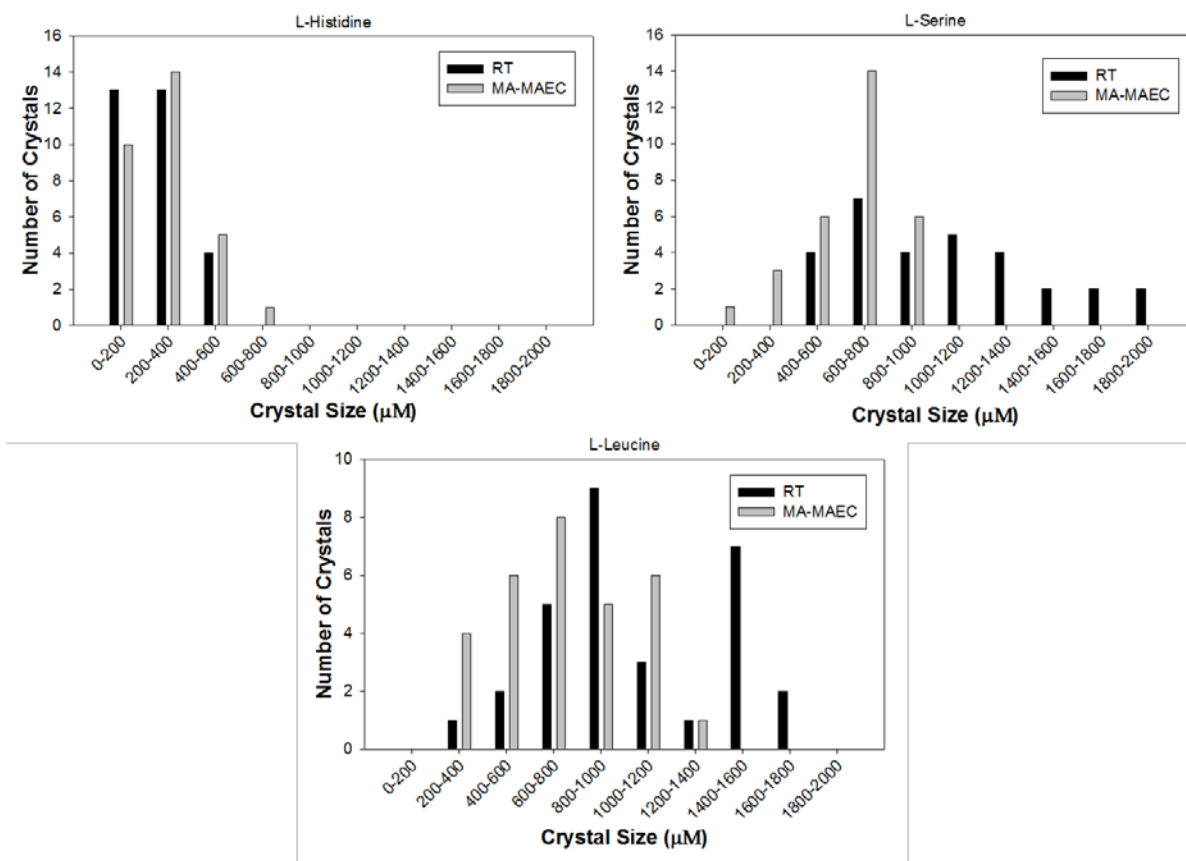


Figure S5. Size distribution of all crystals grown at room temperature and using MA-MAEC. n=30

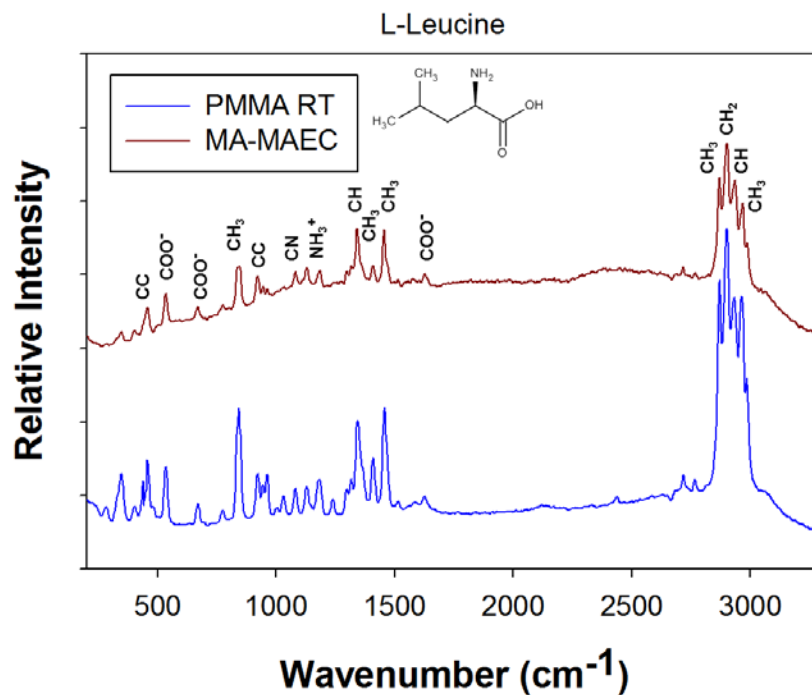


Figure S6. Raman spectra and peak assignments for L-Leucine crystals grown on blank PMMA at room temperature and using MA-MAEC.

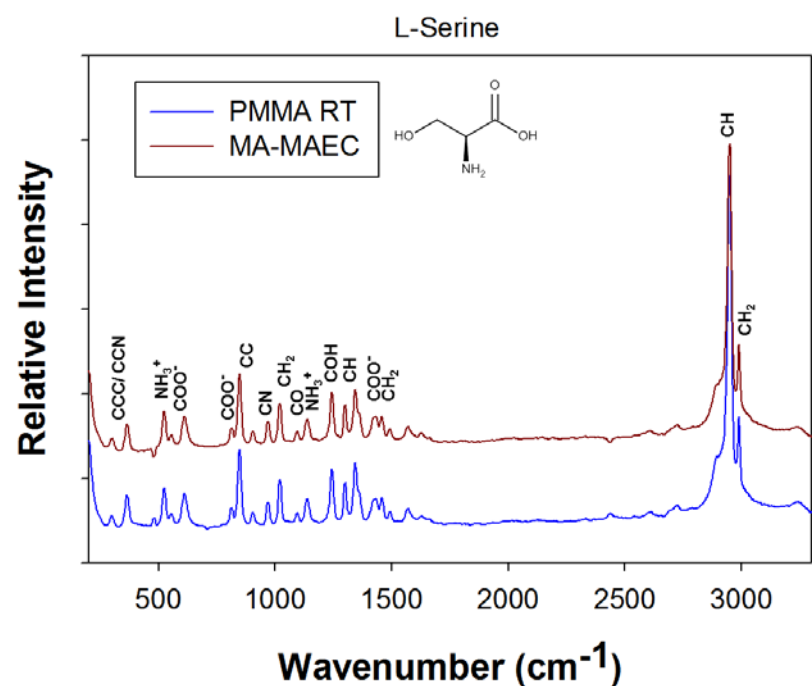


Figure S7. Raman spectra and peak assignments for L-Serine crystals grown on blank PMMA at room temperature and using MA-MAEC.

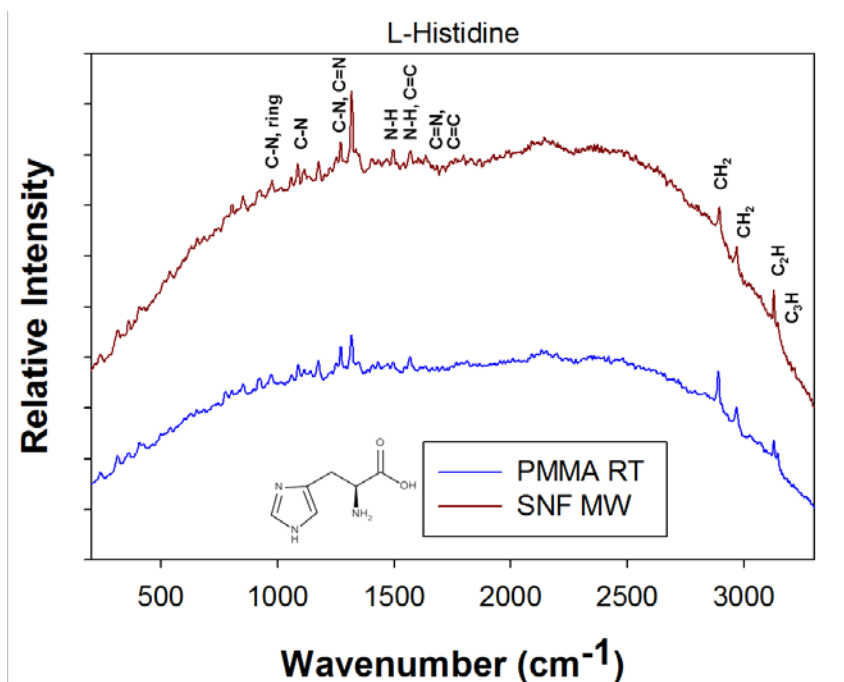


Figure S8. Raman spectra and peak assignments for L-Histidine crystals grown on blank PMMA at room temperature and using MA-MAEC.

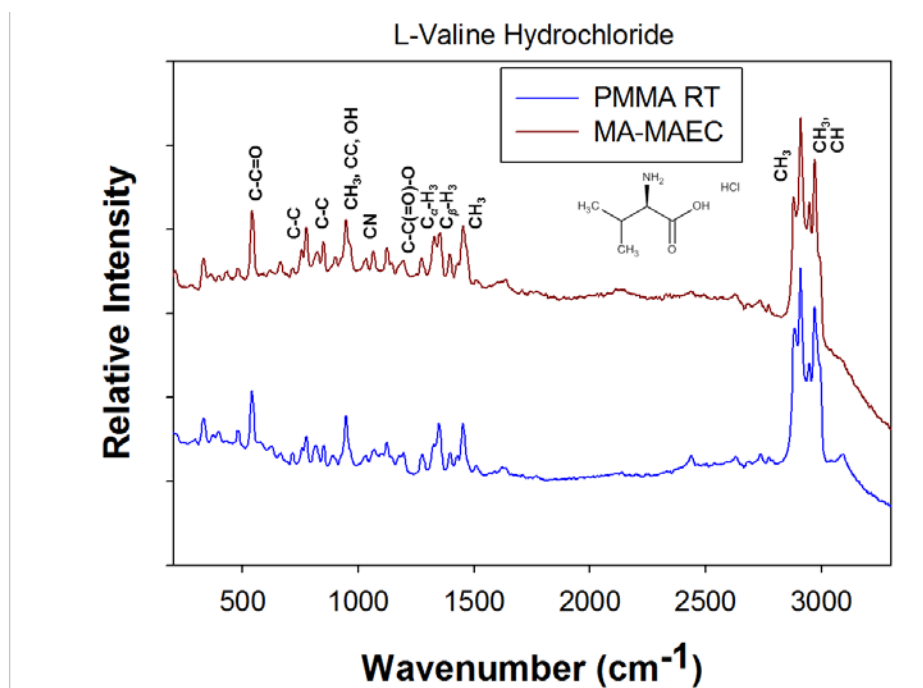


Figure S9. Raman spectra and peak assignments for L-Valine hydrochloride crystals grown on blank PMMA at room temperature and using MA-MAEC.

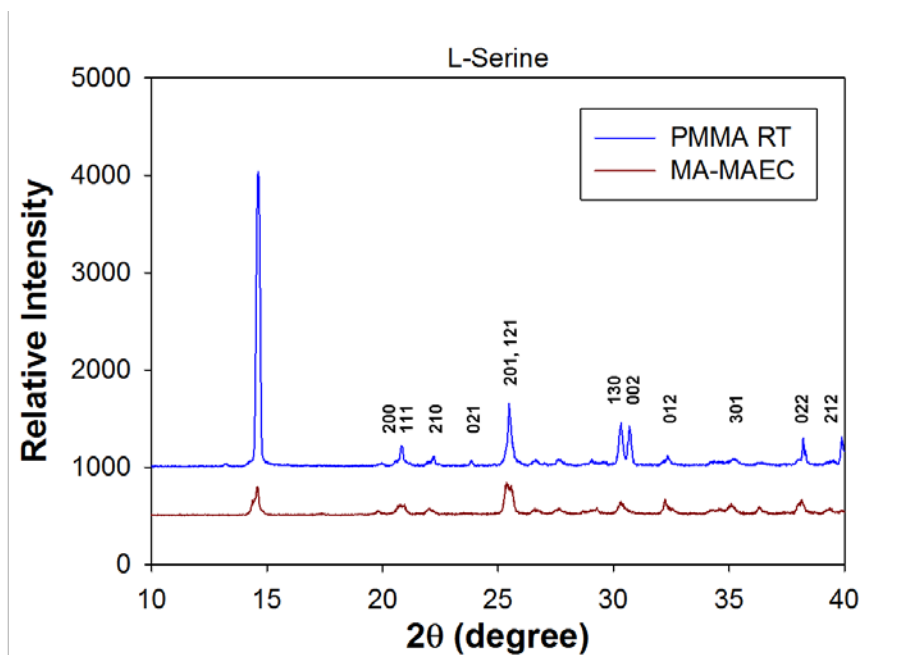


Figure S10. XRD pattern of L-Serine crystals formed on blank PMMA at room temperature and using MA-MAEC.

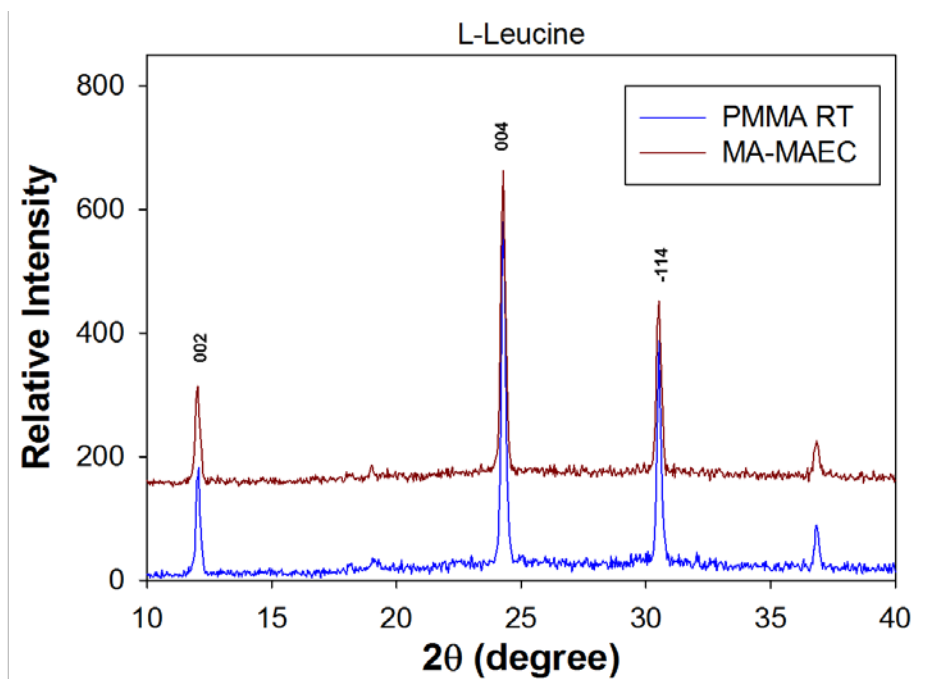


Figure S11. XRD patterns of L-Leucine crystals grown at room temperature on blank PMMA and in the microwave on SNFs.

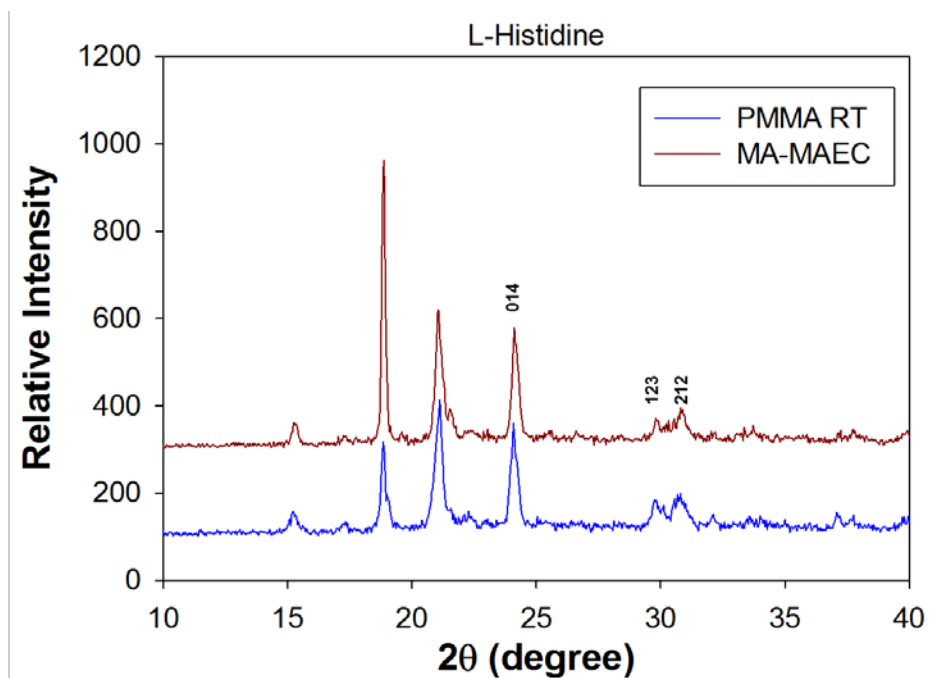


Figure S12. XRD patterns of L-Histidine crystals grown at room temperature on blank PMMA and in the microwave on SNFs.

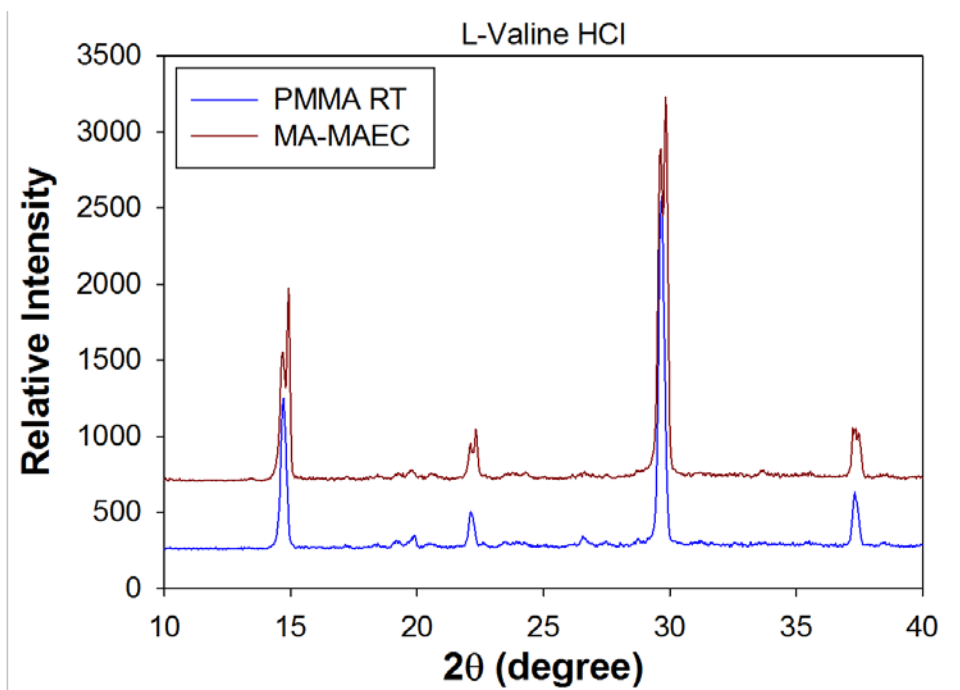


Figure S13. XRD patterns of L-Valine HCl crystals grown at room temperature on blank PMMA and in the microwave on SNFs.