Supporting Information for

Crystallization of Lysozyme on Metal Surfaces Using a Monomode Microwave System

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Table S1 Summary of results for the crystallization of lysozyme from 60 mg/mL solution on our circular crystallization platforms at room temperature (no microwave heating) and using MA-MAEC technique with continuous heating

iCrystal system	Initial Crystallization time* (minutes)		Crystallization time** (minutes)	
Microwave power level	Blank PMMA	SNFs	Blank PMMA	SNFs
N/A (RT)	50	50	1190 ± 14	857 ± 31
10-50 W[a]	-	-	-	-
60 W	15	15	757 ± 28	585 ± 83
70 W	15	15	555 ± 77	527 ± 28
80 W	15	15	680 ± 91	670 ± 31
90-100 W[b]	-	-	-	-

Experiments were repeated three times at each condition.
SNFs: Silver nanoparticle films (1 nm thick) on circular crystallization platforms. Blank PMMA: circular crystallization platform without SNFs. RT: Room Temperature.
*Initial crystallization time refers to the time of appearance of first crystal detectable by our optical microscope).
**Crystallization time refers to the time when lysozyme crystals stopped their growth.
[a]Continuous heating within this wattage range was too low to facilitate accelerated the crystallization of the protein
[b]Continuous heating within this wattage range was too high and overheat the solution causing boiling of the solution.

Table S2 Summary of results for the crystallization of lysozyme from 60 mg/ml solution on our iCrystal plates at room temperature (no microwave heating)

iCrystal System ITO	Initial Crystallization time* (minutes)	Crystallization time** (minutes)	Size Range (min-max) (μm)	Average number of Crystals***
RT	15	855 ± 15	108-571	27 ± 2

ITO: Indium Tin Oxide on iCrystal plates
*Initial crystallization time refers to the time of appearance of first crystal detectable by our optical microscope).
**Crystallization time refers to the time when lysozyme crystals stopped their growth.
***Number of all observable crystals counted on 21-well iCrystal plates.

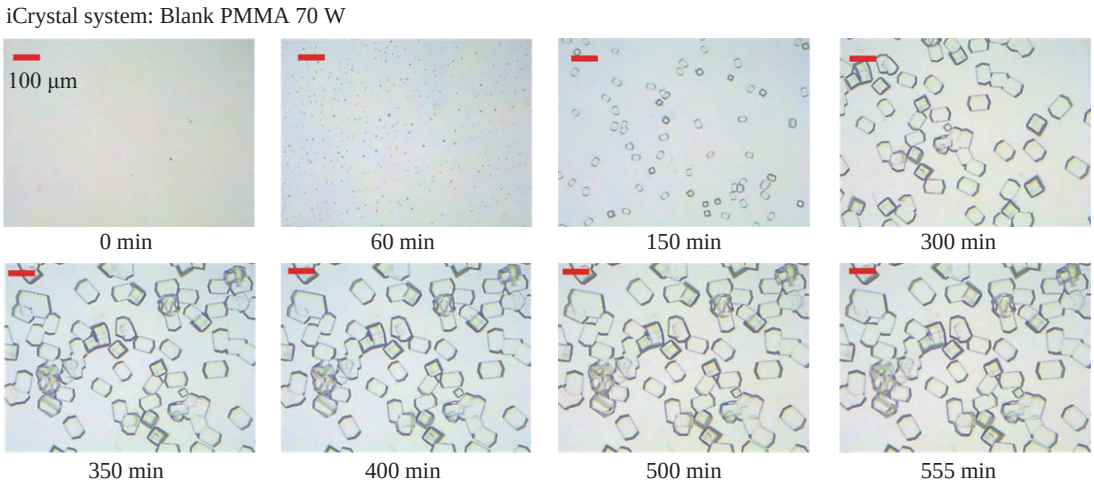

Fig. S1 Time progression of the growth of lysozyme crystals on a blank iCrystal plates using the MA-MAEC technique at 70 W of power.

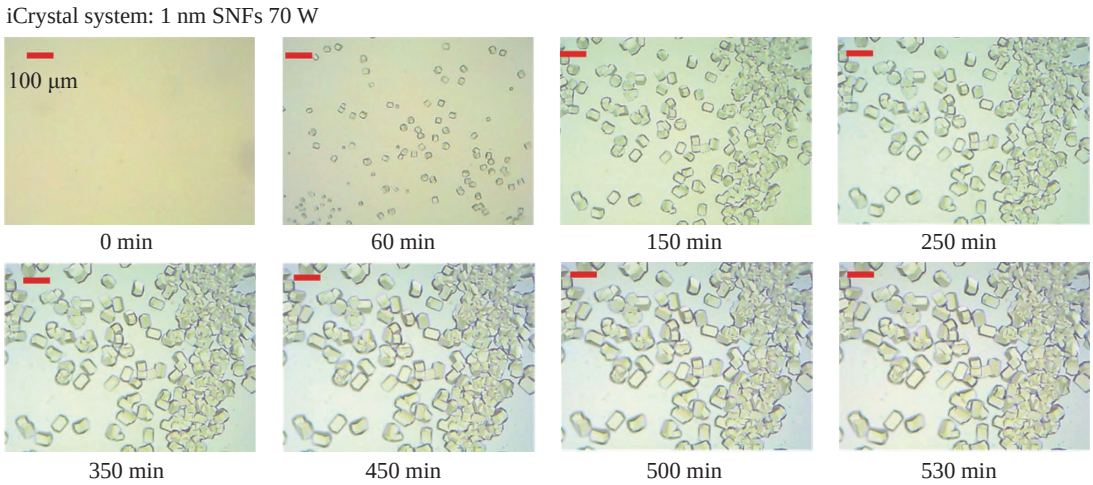

Fig. S2 Time progression of the growth of lysozyme crystals on a 1 nm SNFs-deposited iCrystal plates using the MA-MAEC technique at 70 W of power.

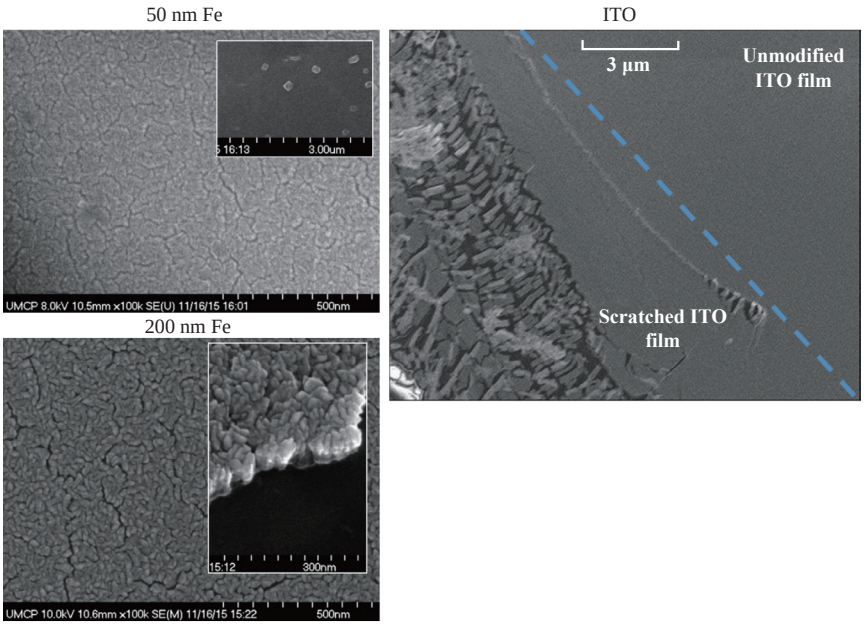

Fig. S3 SEM images of iron nano-columns (50 nm and 200 nm height) and ITO.

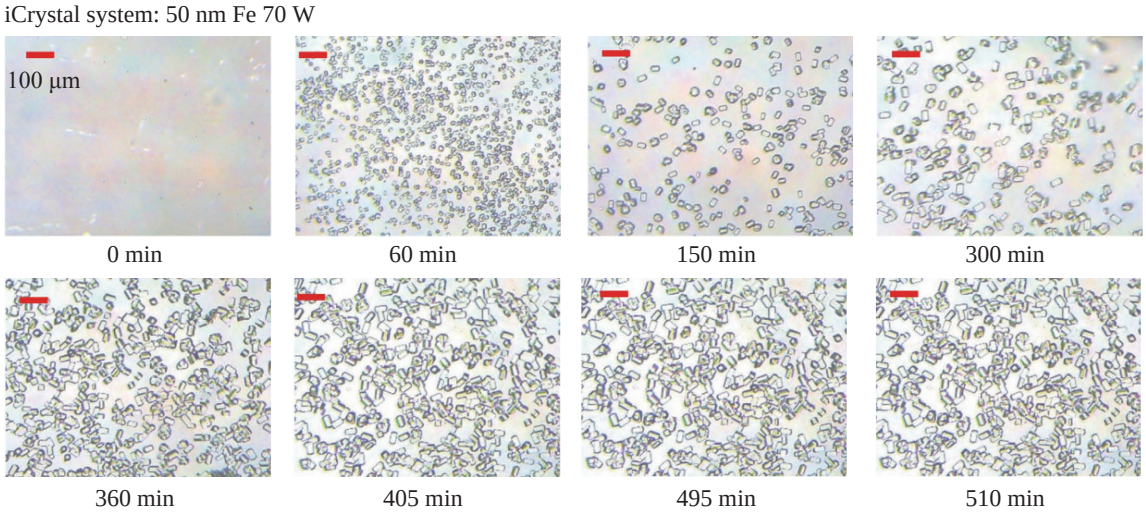

Fig. S4 Time progression of the growth of lysozyme crystals on a 50 nm iron nano-columns deposited-iCrystal plates using the MA-MAEC technique at 70 W of power.

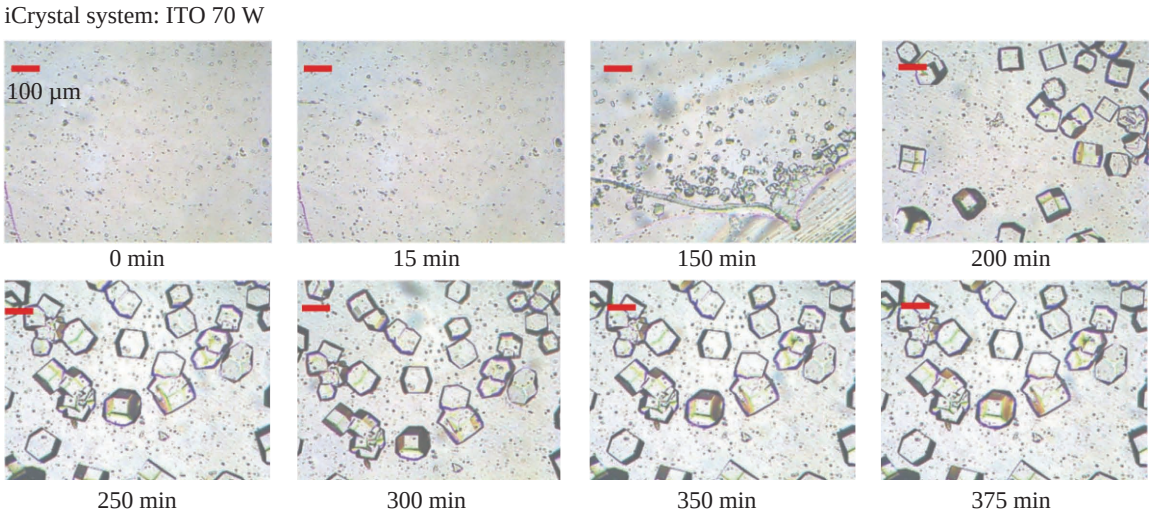

Fig. S5 Time progression of the growth of lysozyme crystals on ITO-modified iCrystal plates using the MA-MAEC technique at 70 W of power.

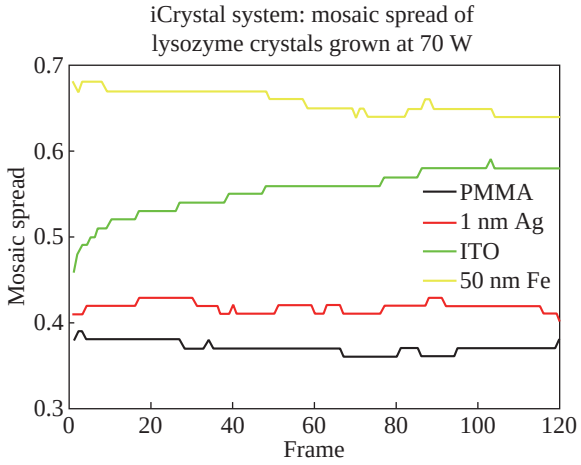

Fig. S6 Displays the mosaic spread results (measuring imperfections in the alignment of individual unit cells within the lysozyme crystals) from the x-ray diffraction analysis of lysozyme crystals grown on PMMA, 1 nm Ag, ITO and 50 nm iron nano-columns deposited-iCrystal plates grown using the iCrystal System.

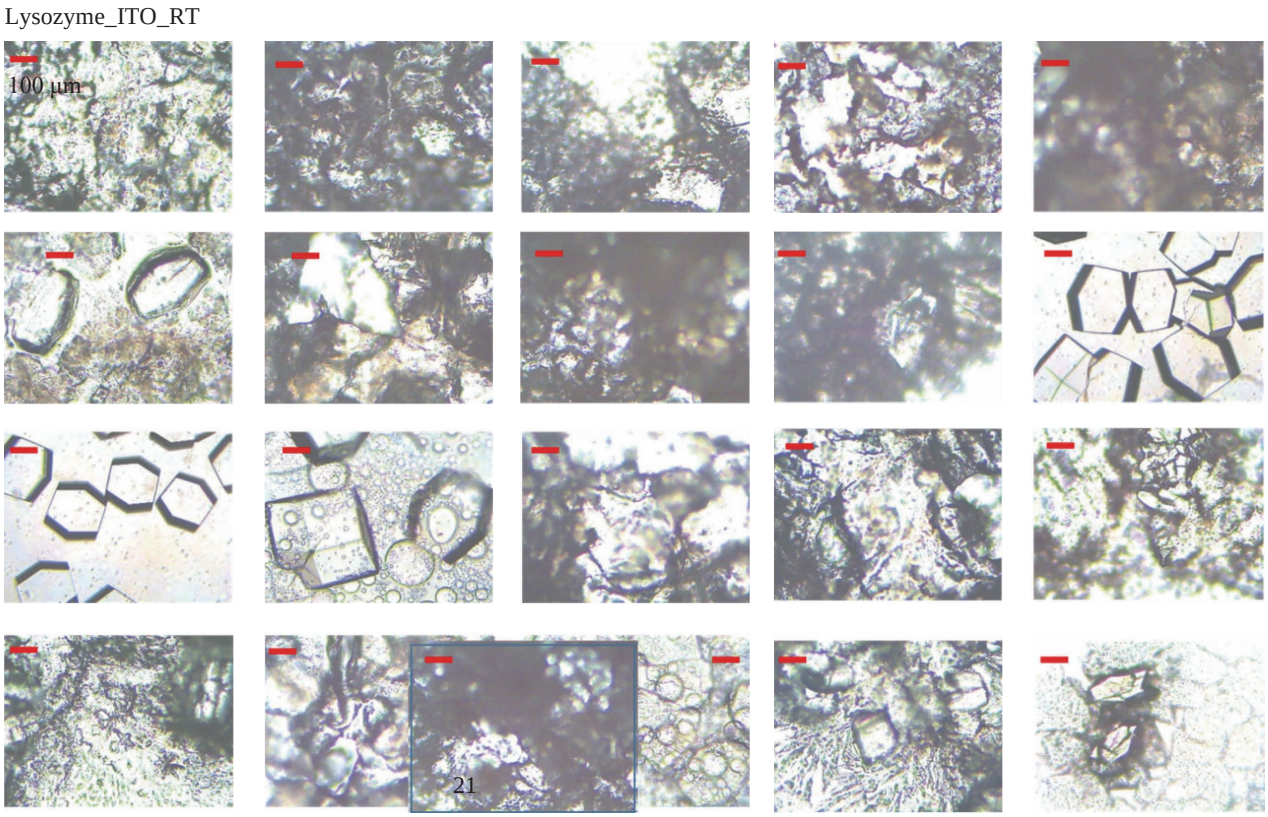

Fig. S7 Optical images of typical lysozyme crystals from each of the 21 wells grown on ITO-modified iCrystal plates at room temperature.