

Defect-tolerant Bioinspired Hierarchical Composites: Simulation and Experiment

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Supplementary information

The crack propagation paths in all tested bone-like and biocalcite-like samples with and without the pre-cracks are shown in Figure . As discussed in detail in Section 3 and clearly shown in the figures depicted below, the localized crack initiation and propagation in low hierarchy levels transforms to a distributed crack propagation mechanism at higher hierarchy levels, which consequently results in a significant improvement in the defect tolerance of these designs.

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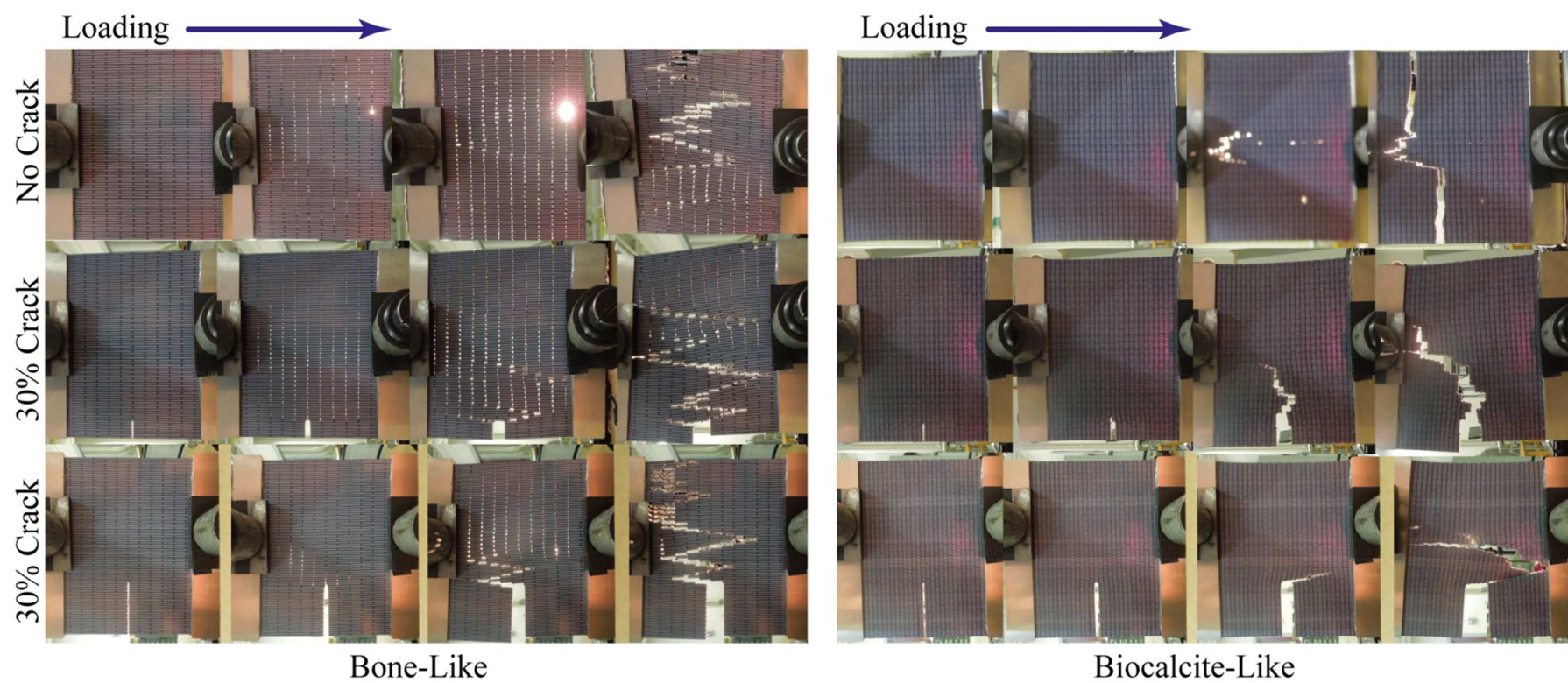


Figure S1: Snapshots of the crack propagation in two-hierarchy bone-like and biocalcite-like samples with different pre-crack sizes.

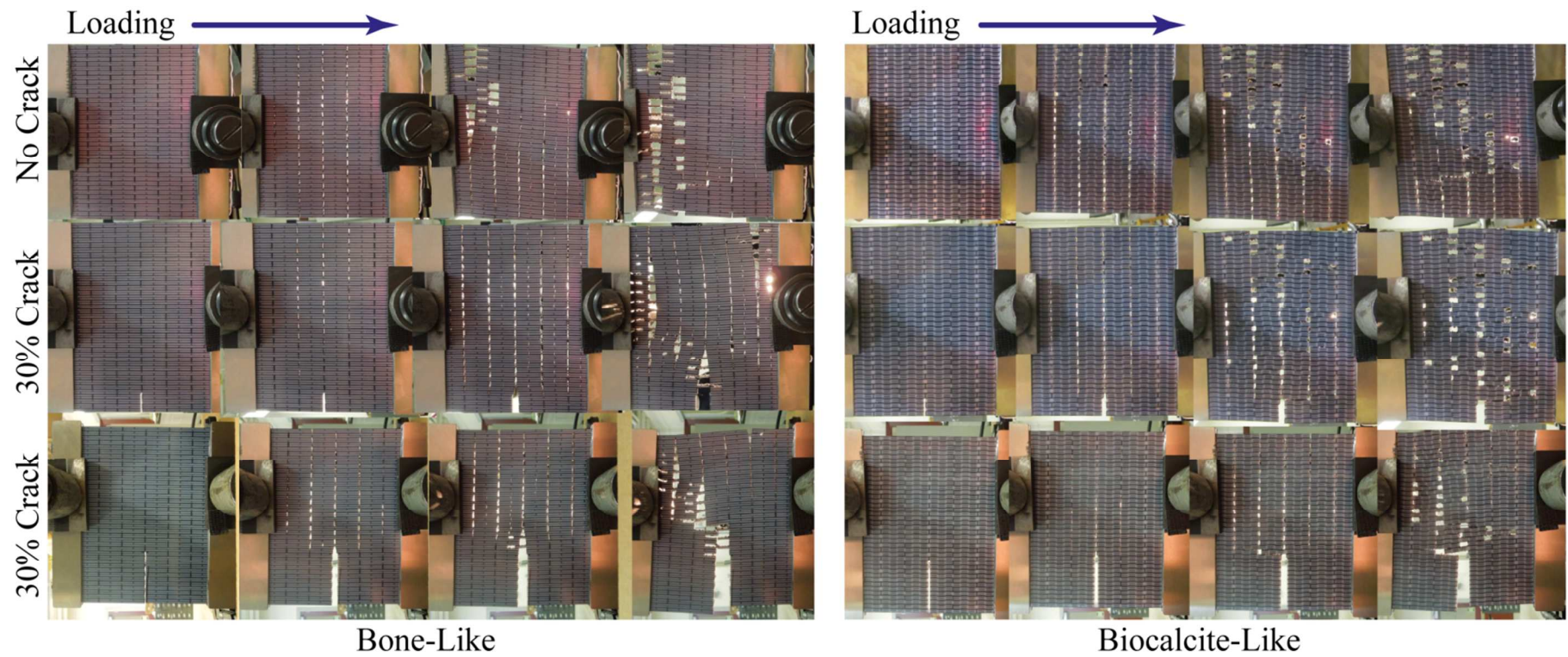


Figure S1 (contd.): Snapshots of the crack propagation in three-hierarchy bone-like and biocalcite-like samples with different pre-crack sizes.

