

List and description of supplementary movies

1. Supplementary Movie 1 | Reproducible mechanical stretchability (a strain of >500%) of PEDOT:PAAMPSA:PA free-standing film.

2. Supplementary Movie 2 | Real-time OM observation of self-healing of PEDOT:PAAMPSA:PA thin film.

3. Supplementary Movie 3 | Self-healing of PEDOT:PAAMPSA:PA free-standing film.