

Robust, Self-adhesive and Anti-bacterial Silk-Based LIG Electrodes for Electrophysiological Monitoring

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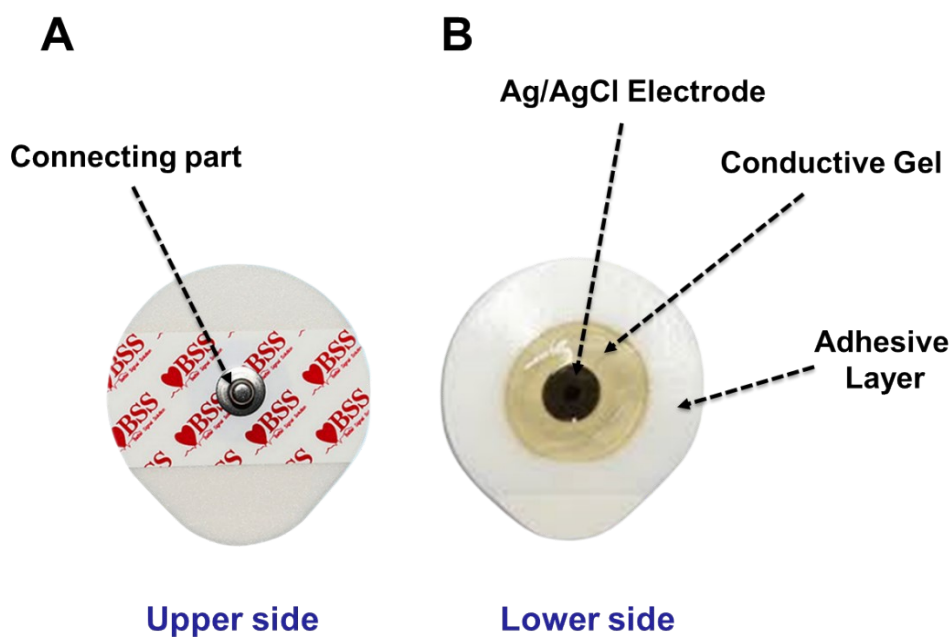


Fig. S1 Composition of commercial Ag/AgCl electrodes. A) upper side and B) Lower side.

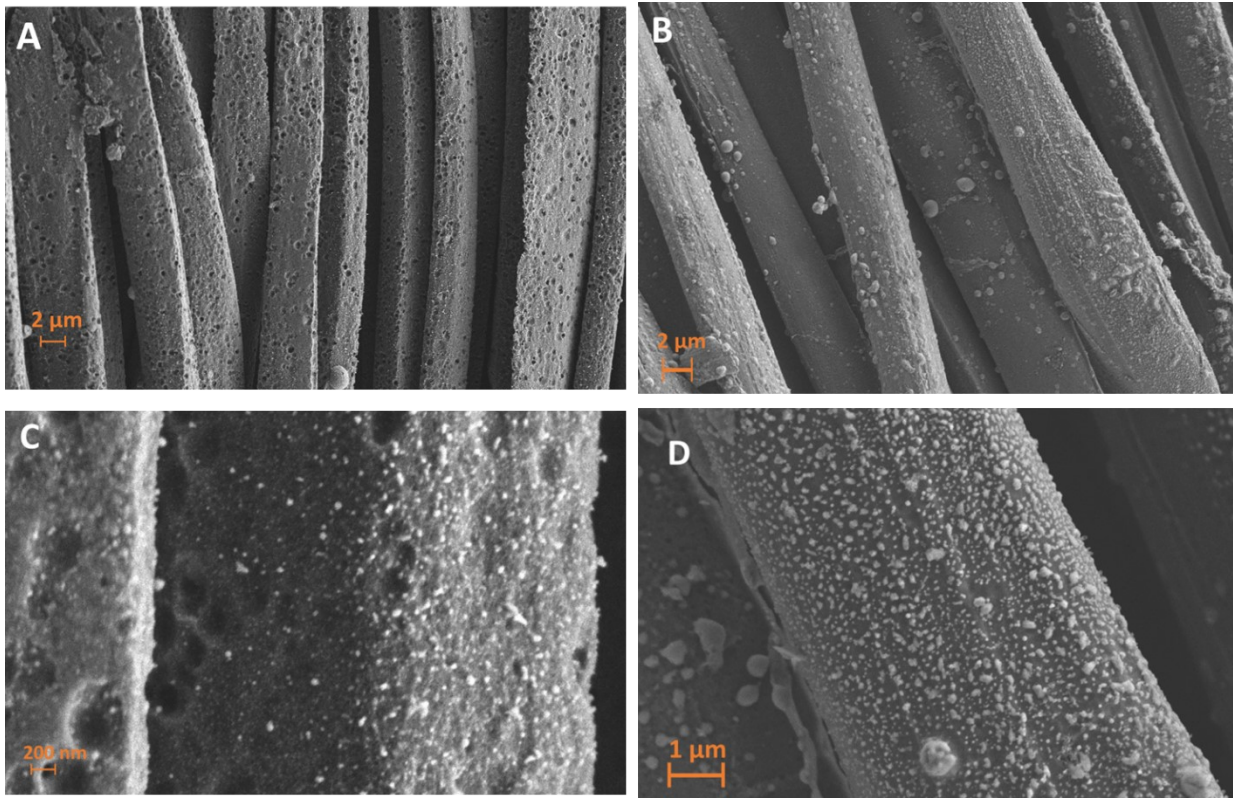


Fig. S2 HR-SEM images (A-B) bundle, (C-D) high magnification single fiber structures of optimized LIG-SF electrodes (2.5 W) and LIG-SF electrodes (1.5 W), respectively.

Conventional Electrodes

Conformal Electrodes

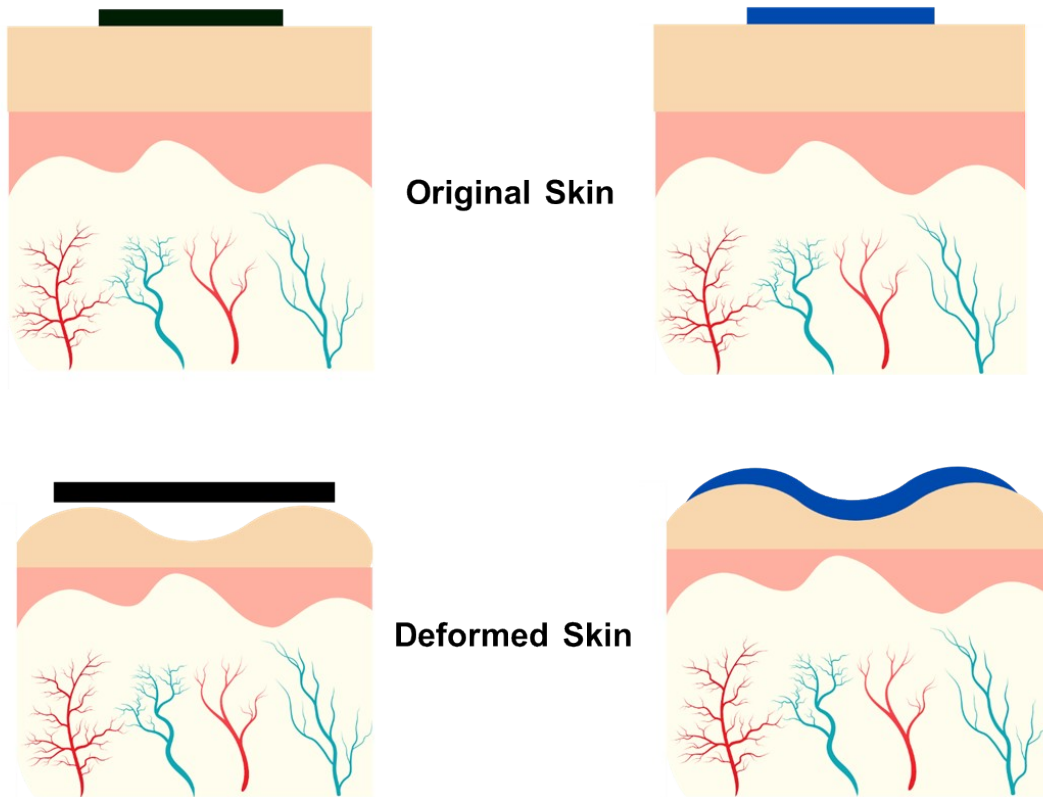


Fig. S3 Conformal property of flexible wearable electrodes in comparison with conventional rigid electrodes.

a) Adsorption

b) Mechanical Interlocking

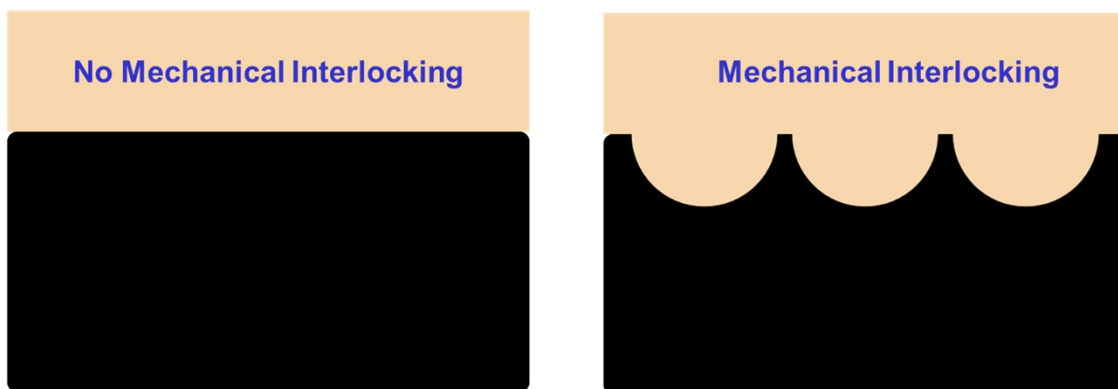


Fig. S4 Adhesion mechanisms of optimized adhesive LIG-SF electrodes. A) Normal adsorption, and B) Mechanical interlocking structure formed by the micro-hole structures.

Table. S1 Sheet resistance (Ω/sq) of 24 square (Sq) points covering the whole surface of the top side of LIG-SF electrodes.

Top side of LIG-SF	Sheet resistance (Ω/sq)					
	Sq. 1	Sq. 2	Sq. 3	Sq. 4	Sq. 5	Sq. 6
Sq. 1	5.5338	7.8515	6.8977	6.1059	7.6146	8.1027
Sq. 2	6.9649	6.8409	4.6589	6.0026	7.1467	7.2682
Sq. 3	6.9846	6.7164	5.6124	5.0235	6.6086	8.3167
Sq. 4	6.7169	6.6649	5.2029	6.3521	7.1319	6.7924

Table. S2 Sheet resistance (Ω/sq) of 24 square (Sq) points covering the whole surface of the bottom side of LIG-SF electrodes.

Bottom side of LIG-SF	Sheet resistance (Ω/sq)					
	Sq. 1	Sq. 2	Sq. 3	Sq. 4	Sq. 5	Sq. 6
Sq. 1	5.1948	7.6721	8.1931	6.5321	7.2133	8.1923
Sq. 2	6.7363	6.1622	7.71	7.2189	7.5295	7.1444
Sq. 3	6.4908	8.041	7.4906	6.4524	6.1607	7.3409
Sq. 4	7.3081	5.6484	7.1803	5.778	8.154	8.2316