

Supporting Information

Fabrics coated with hot-iron-treated graphene oxide for self-cleaning and mechanically robust water-oil separation material

Tao Gong,^a Jongwoon Kim,^a Juyeon Woo,^a Jinhyuk Jang,^a Seungeun Lee^a and Chang-Soo Han^{*a}

College of Mechanical Engineering, Korea University, Anam, Seongbuk, Seoul 136-701, Republic of

Korea

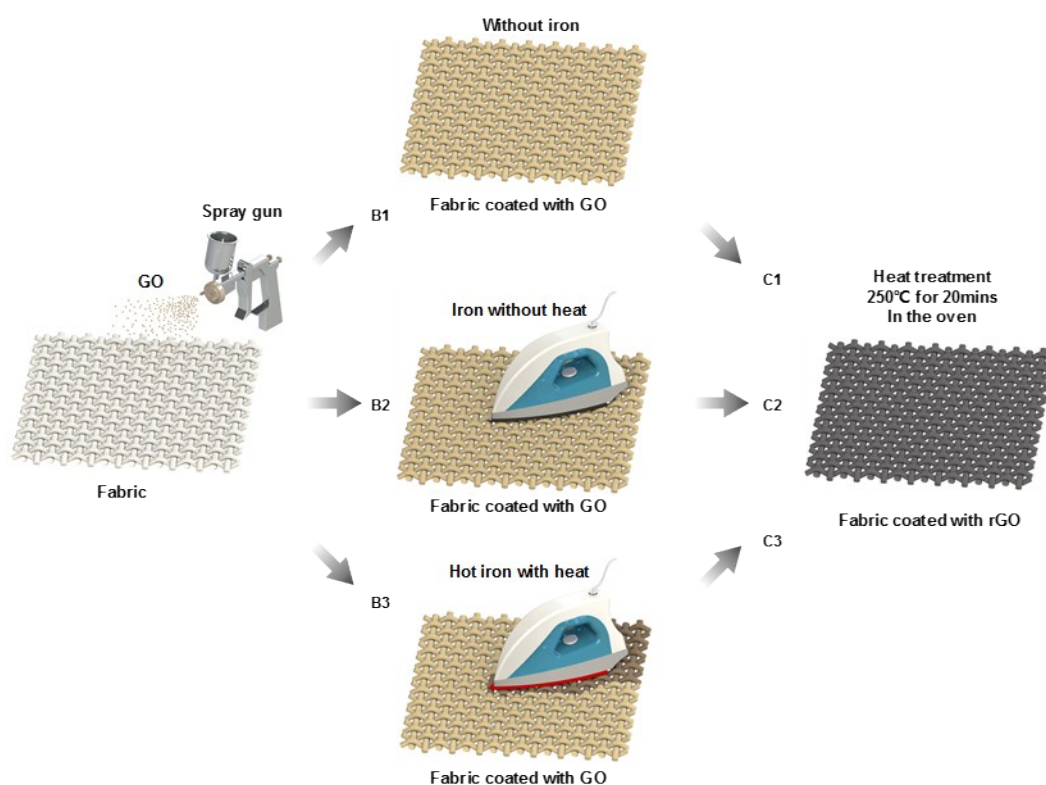


Fig. S1 Schematic representation of rGO coated fabrics. (A) Schematic illustration of the preparation process of a fabric sprayed with GO solution; (B) Fabrics coated with GO using different methods. B1 was the control group, B2 used a room-temperature iron, B3 used a hot iron with 160°C; (C) Schematic illustration of the thermally reduced process using an oven at 250°C for 20 minutes.

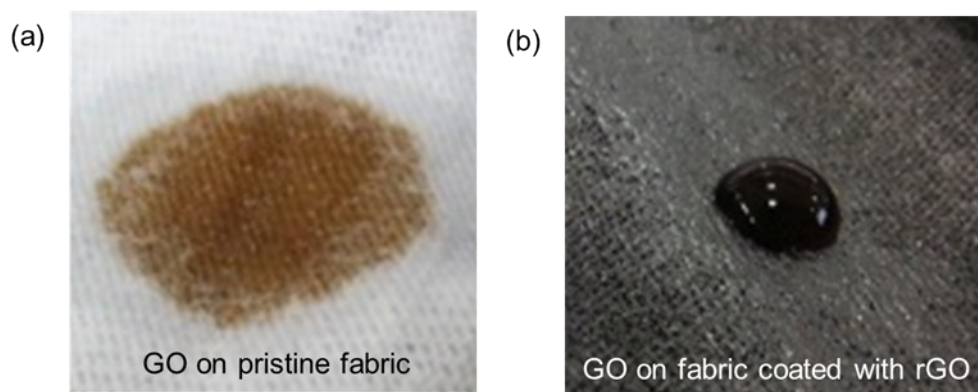


Fig. S2 Photographs of pristine and prepared fabric with GO solution droplets. (a) Pristine fabric was hydrophilic material, (b) Prepared fabric became the hydrophobic material due to the rGO coating using MTIP process.

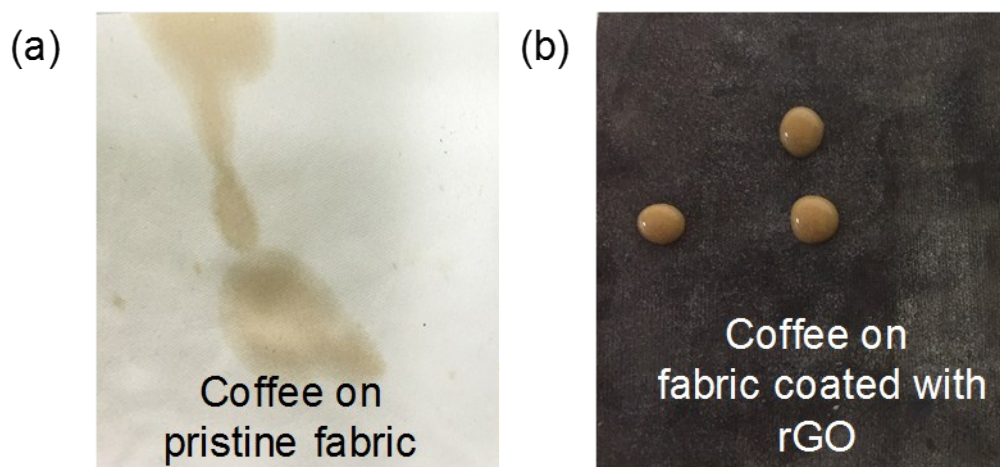


Fig. S3 Comparison the self-cleaning ability of the liquid ,such as coffee, between the pristine fabric and prepared fabric.

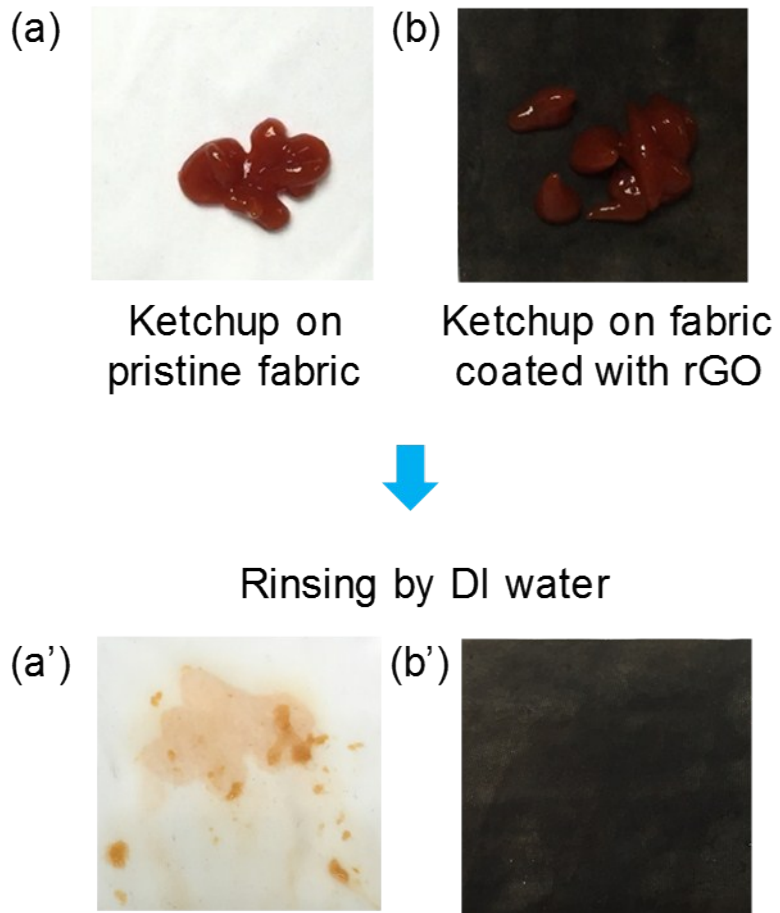


Fig. S4 Comparison the self-cleaning ability of the dope, such as tomato ketchup, between the pristine fabric and prepared fabric.

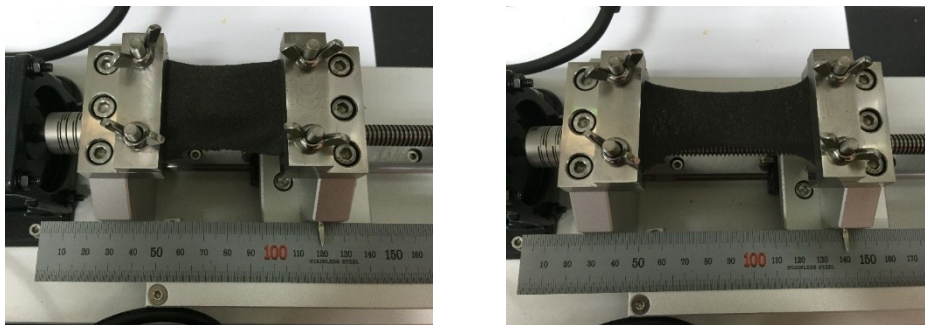


Fig. S5 Mechanical properties of rGO coating under the tensile test.



Fig. S6 Conductive, flexible and durable fabrics coated with rGO.

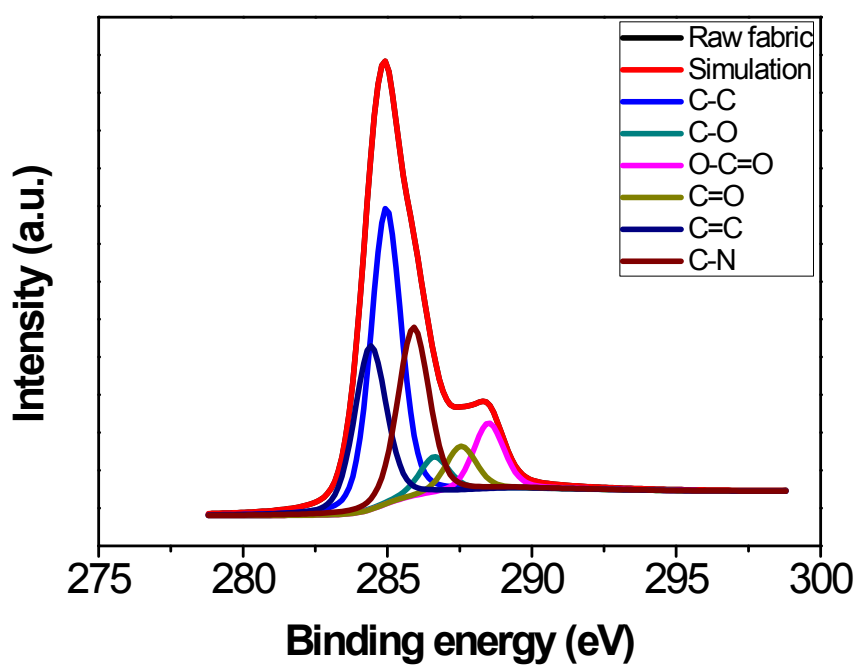


Fig. S7 XPS deconvoluted spectra for the C1s orbitals of normal fabric.