

Piezoelectric nanogenerator based on flexible PDMS-BiMgFeCeO₆ composites for sound detection and biomechanical energy harvesting

^{#1}Sugato Hajra, ^{#1}Yumi Oh, ¹Manisha Sahu, ¹Kyungtaek Lee, ¹Hang-Gyeom Kim, ²Basanta Kumar Panigrahi, ³Krystian Mistewicz, ^{*1}Hoe Joon Kim

¹*Department of Robotics Engineering, Daegu Gyeongbuk Institute of Science and Technology, Daegu-42988, Republic of Korea*

²*Department of Electrical Engineering, Siksha 'O' Anusandhan Deemed to be university, Bhubaneswar-751030, India*

³*Institute of Physics - Center for Science and Education, Silesian University of Technology, Krasińskiego 8, 40-019, Katowice, Poland*

#Equal Contribution: *Sugato Hajra and Yumi Oh*

***Corresponding Author Email:** joonkim@dgist.ac.kr

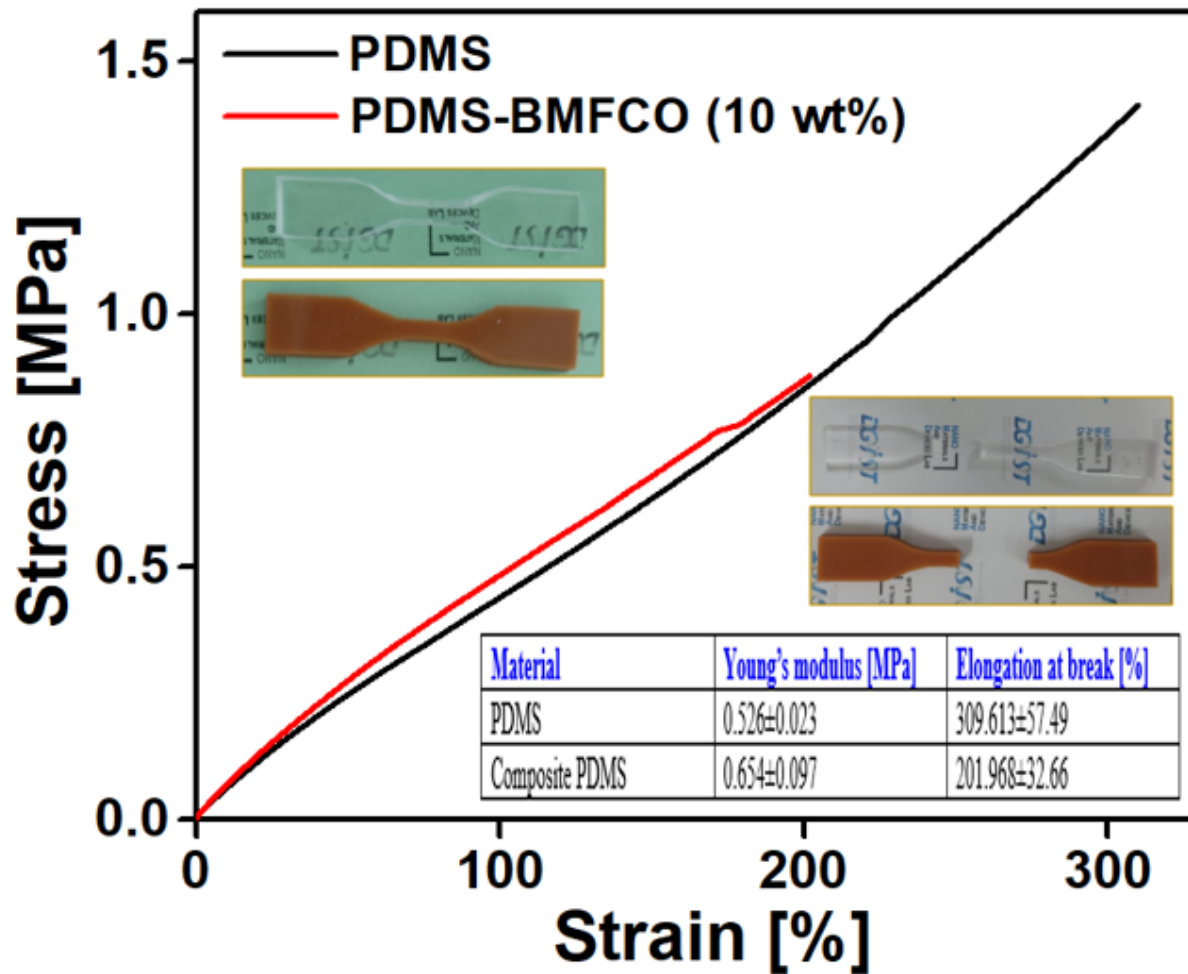


Figure S1: Comparison of the mechanical properties of PDMS and PDMS-BMFCO (10 wt %) along with Young's modulus in an inset.

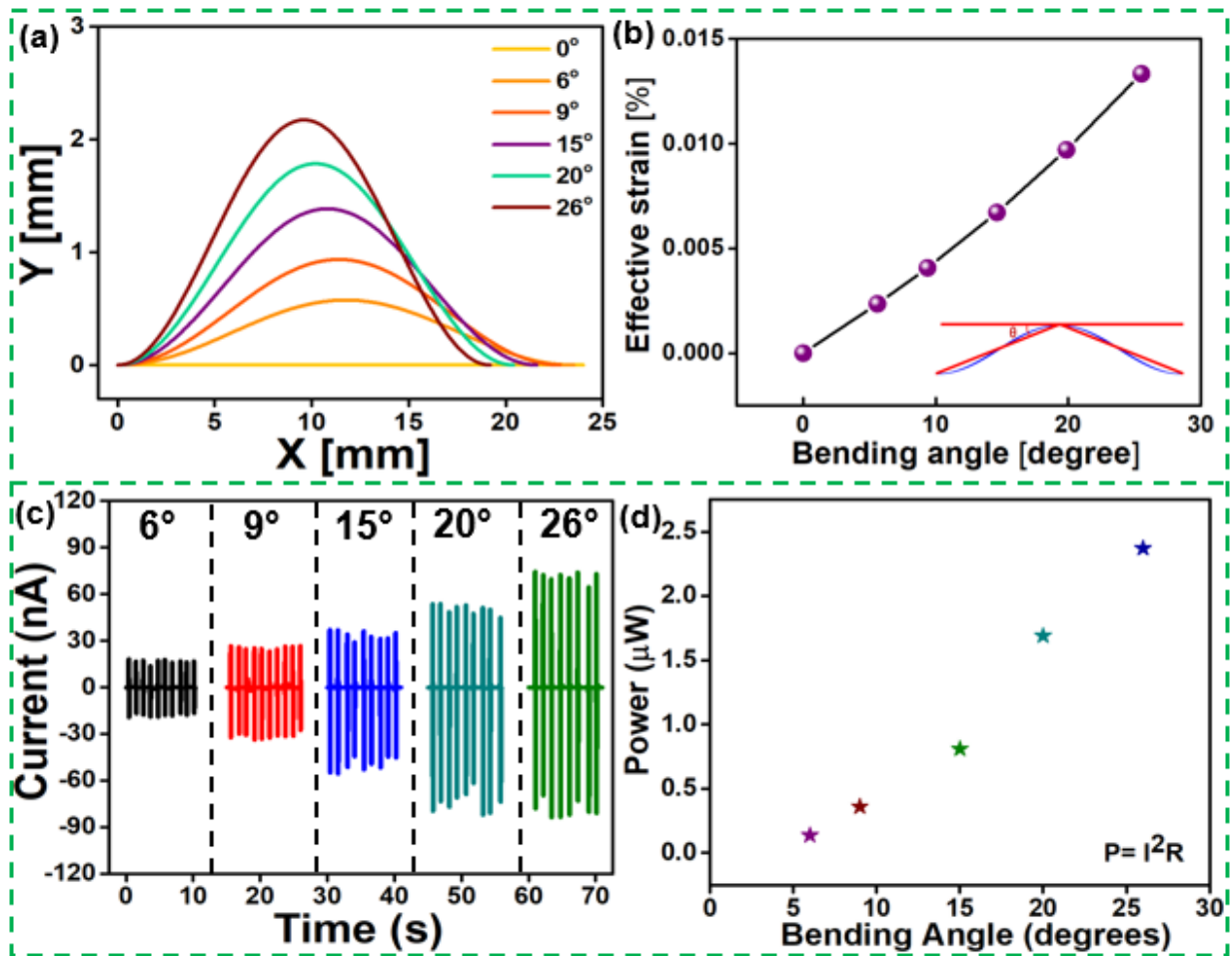


Figure S2: (a) The bending of the PENG10 device on the application of the horizontal force; (b) The effective strain generated at each bending angle; (c) current output of the PENG10 device at various bending angles and (d) power output of the PENG10 device at a various bending angle.