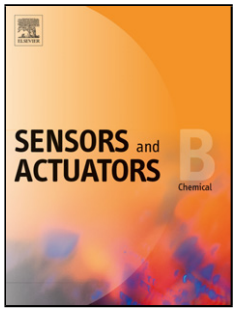

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Moisture sensitive inimitable Armalcolite/PDMS flexible sensor: A new entry

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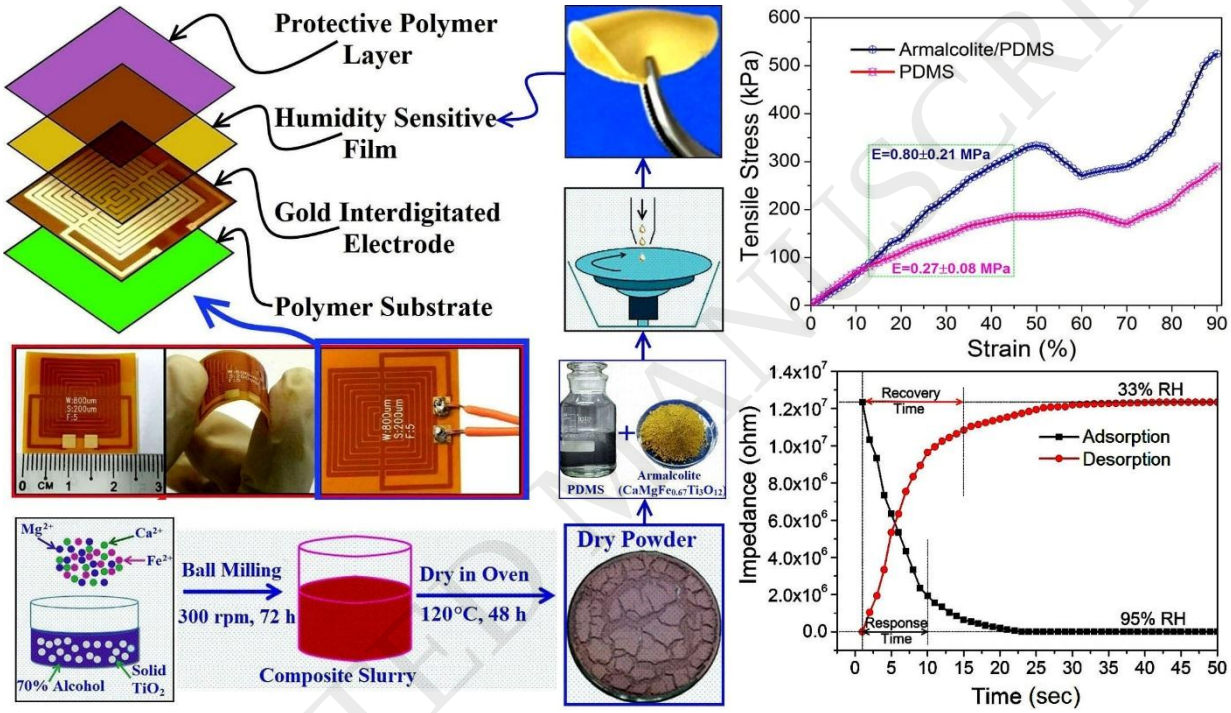
Graphical Abstract



Highlights

- A rare lunar earth material, Armalcolite was synthesized first time in the laboratory environment.
- Armalcolite/PDMS nanocomposite based flexible humidity sensor was developed for biomedical and flexible electronics application.
- Newly developed flexible humidity sensor shows excellent linearity, extremely low hysteresis, high sensitivity and, faster response and recovery time.

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Abstract

Armalcolite, a pioneering material which is commonly available on the moon surface, was synthesized first time in the laboratory environment using innovative solid-state-step sintering process. Afterwards, Armalcolite/Polydimethylsiloxane (PDMS) nanocomposite was prepared using ball milling technique and then spin coated on interdigitated customized gold (Au) electrode on a polyimide substrate in order to develop a high sensitive and fast-response