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Supplementary Information

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S1: Photographs of Thymol blue plastic film and typical solvent-based ink film when stored in ambient atmospheric conditions, in the dark for 7 days.

Fig. S1. Thymol blue plastic film and solvent-based ink film was stored in the dark under ambient air (T = 22°C, RH ca. 60%) and a picture was taken once a day.
S2: Photographs of thymol blue plastic film function as a CO₂ sensor in carbonated drink.

Fig. S2. Photographs of a typical TB plastic film partly immersed in sparkling (i.e. carbonated) drinking water turn yellow due to reaction (1) but recovers its original colour after 1 h, when removed from the sparkling water.
S2: Photographs of thymol blue plastic film function as a CO\textsubscript{2} sensor in pH = 2 acid solution.

Fig. S3. Photographs of a typical TB plastic film partly immersed in 0.01 M HCl, in which it retains its original green colour until CO\textsubscript{2} is bubbled into the solution pH = 2, whereupon it turn yellow. Once removed from the acidic, carbonated solution, the TB plastic film regains its original colour.