SUPPLEMENTARY MATERIAL

Paper-based colorimetric sensor array for the rapid and on-site discrimination of green tea samples based on the flavonoid composition

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Preparation of reagents for colorimetric reactions

The reagents used in the colorimetric reactions were prepared using the methodology described below:

a) Vanillin-sulfuric acid reagent (C1): A 1% solution of vanillin in ethanol and a 5% ethanolic solution of sulfuric acid were prepared separately. The final solution was prepared by mixing the same volume of each.

b) NP-PEG (C2): The solution was prepared with 10 mL of 1 % methanolic diphenylboric acid-β-ethylamino ester (NP), followed by 8 mL of 5 % ethanolic polyethylene glycol-4000 (PEG).

c) Anisaldehyde-sulphuric acid reagent (C3): A solution was prepared by adding 0.5 mL of anisaldehyde in 10 mL of glacial acetic acid. To this solution were added 85 mL of methanol and 5 ml of concentrated sulfuric acid, in that order.

d) Ceric sulfate (C4): A solution was prepared from 2.1 g of Ce(SO₄)₂·5H₂O dissolved in 15 mL of sulfuric acid concentrated and added to 800 mL of water.

e) Aluminum chloride (C5): The reagent solution was prepared with 1% AlCl₃ in methanol.

f) Sulfuric acid solutions (C6): While cooling in ice, 5 mL of sulfuric acid concentrated were added cautiously in 50 mL of absolute ethanol.
Figure S1. Flavonoids discriminated using the colorimetric sensor array.


Figure S2. Digital images for quercetin, catechin and one sample of herbal medicine of green tea before reaction with C1 to C6.