

# SUPPLEMENTARY MATERIAL

**Exploring MBTH as spectrophotometric probe for total phenolic compounds determination  
in beverage samples**

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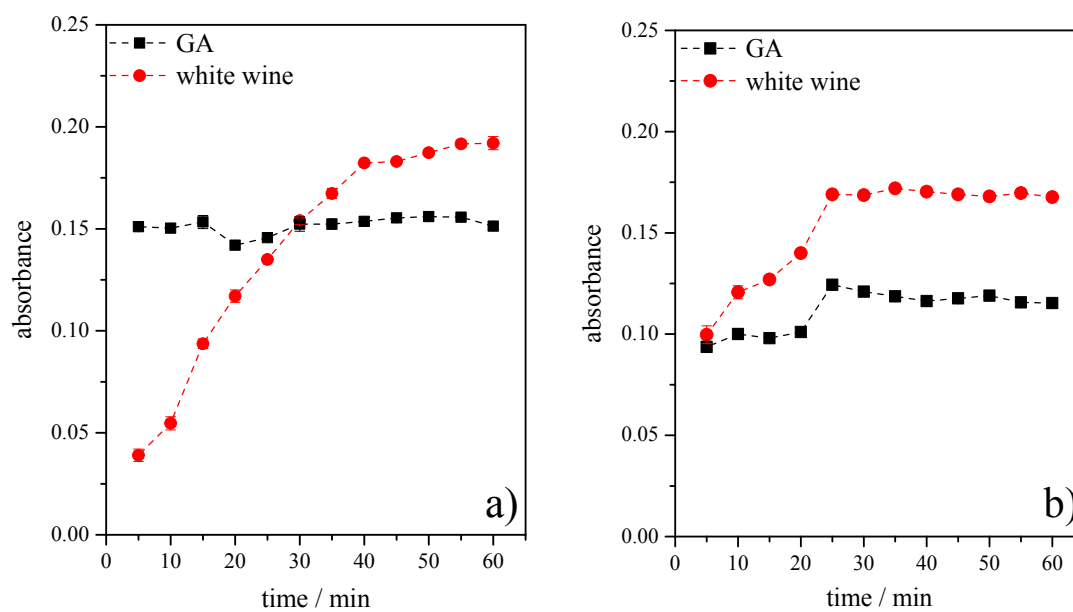
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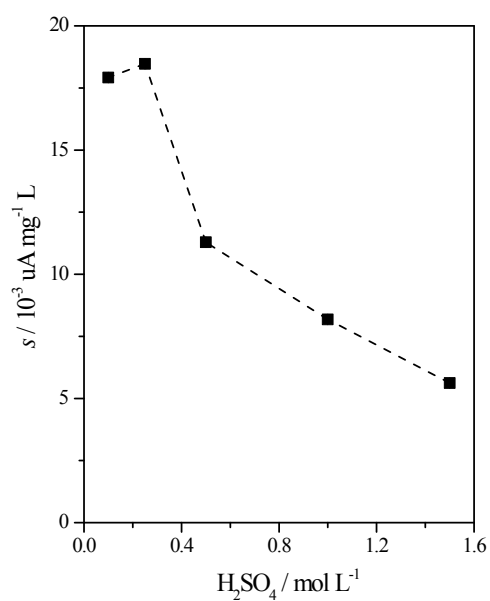
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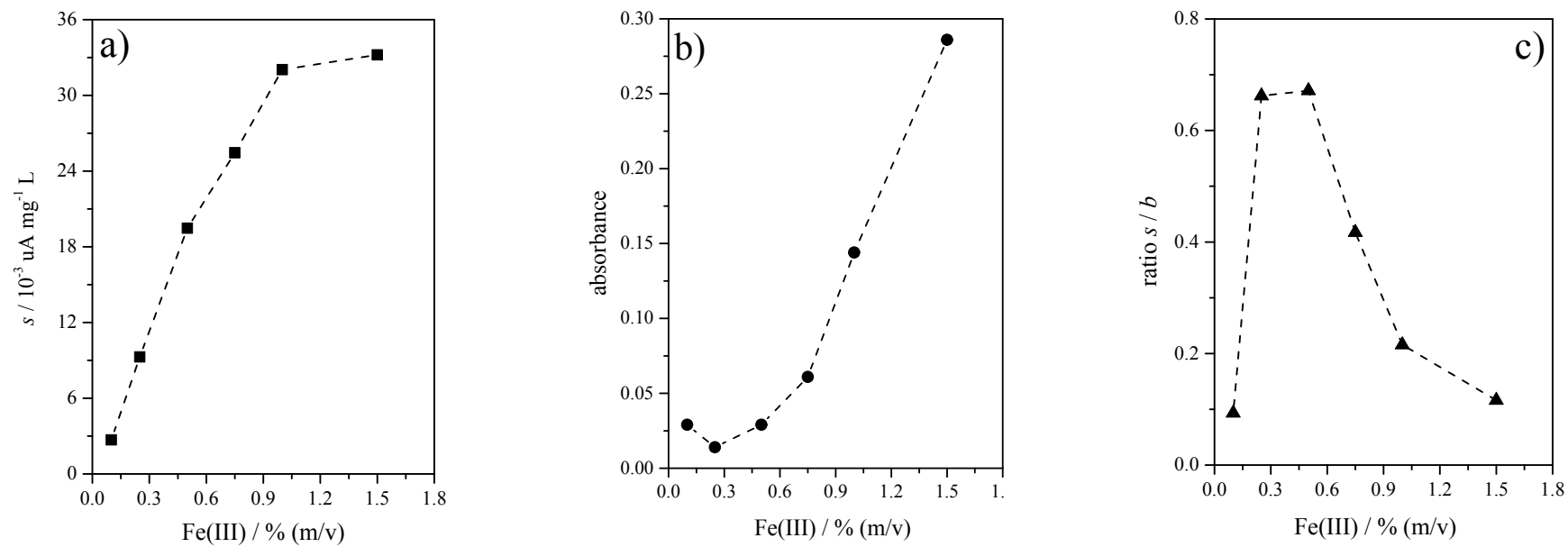
## Figures



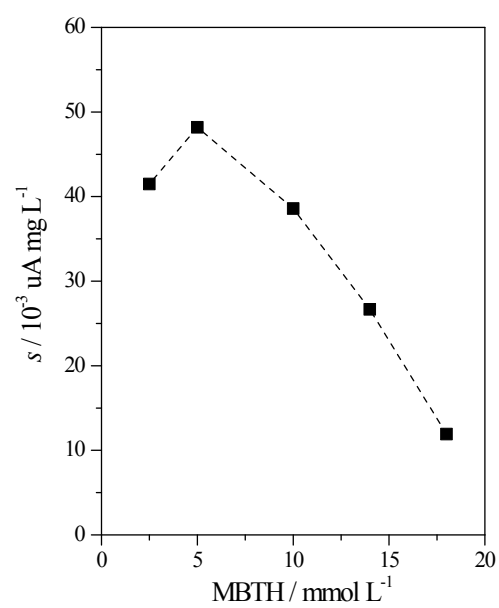
**Fig. S1.** Kinetic profile of the reaction between phenolic compounds and MBTH in acid medium against different oxidants, a) Fe(III) and b) Ce(IV).



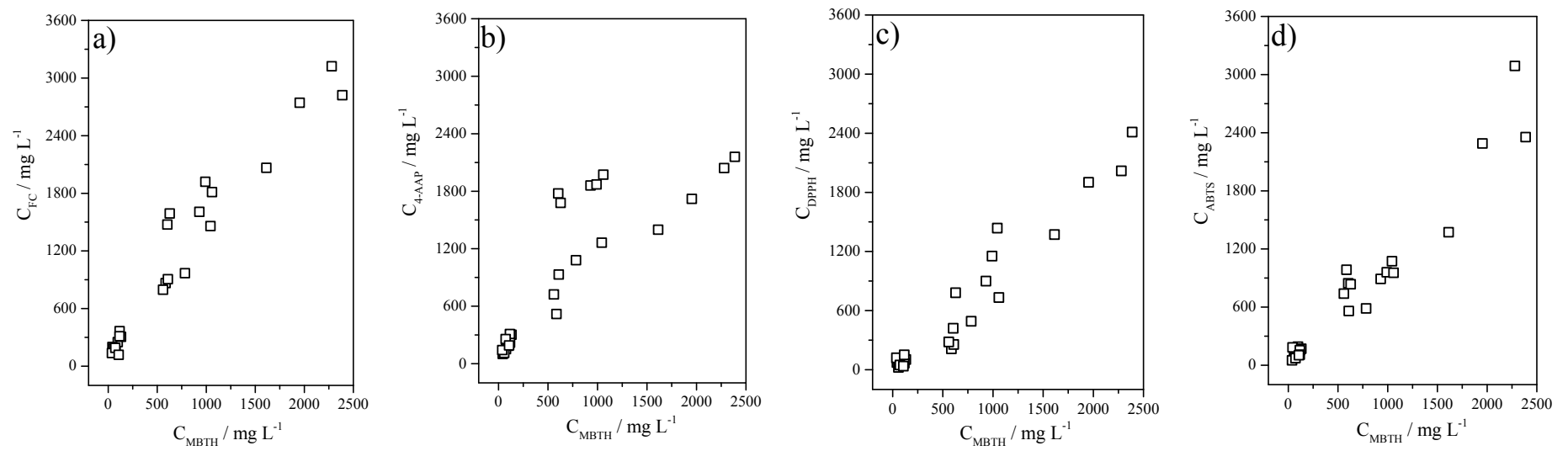
**Fig. S2.** Evaluation of  $H_2SO_4$  concentration. Conditions: [MBTH] = 18 mmol L<sup>-1</sup> and Fe(III) 0.1% (m/v).



**Fig. S3.** a) Evaluation of Fe(III) concentration a) on analytical sensitivity, b) blank signal variation and c) ratio  $s$  (analytical sensitivity) /  $b$  (blank signal). Conditions: [MBTH] = 18 mmol L<sup>-1</sup>.



**Fig. S4.** Evaluation of MBTH concentration. Condition: Fe(III) 0.5% (m/v) and  $\text{H}_2\text{SO}_4$  at  $0.25 \text{ mol L}^{-1}$ .



**Fig. S5** Linear correlation of the phenolic total concentration (GA, g L<sup>-1</sup>) in the samples ( $n = 24$ ) analyzed by different methods in relation to the proposed method: a) MBTH vs FC b) MBTH vs 4-AAP c) MBTH vs DPPH d) MBTH vs ABTS.

## Table

**Table S1**

Standard reduction potentials in aqueous solutions for Fe(III) and Ce(IV) in different acids.

Half-reaction	Potential (V)	Acid (1 mol L <sup>-1</sup> )
	0.77	-
Fe(III) + e <sup>-</sup> ⇌ Fe(II)	0.70*	HCl
	0.68*	H <sub>2</sub> SO <sub>4</sub>
Ce(IV) + e <sup>-</sup> ⇌ Ce(III)	1.28*	HCl
	1.44*	H <sub>2</sub> SO <sub>4</sub>

\*formal electrode potential.