Electronic Supporting Information (ESI)

Sustainable pretreatment of blood samples using hydrophobic eutectic solvents to improve the detection of bisphenol A

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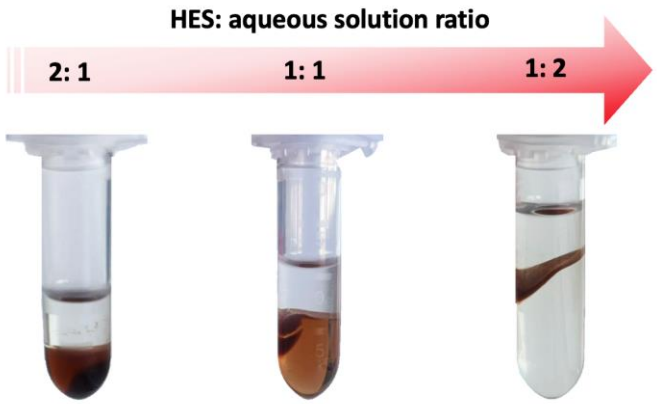

Figure S1. Influence of HES: aqueous solution ratio on blood precipitation.

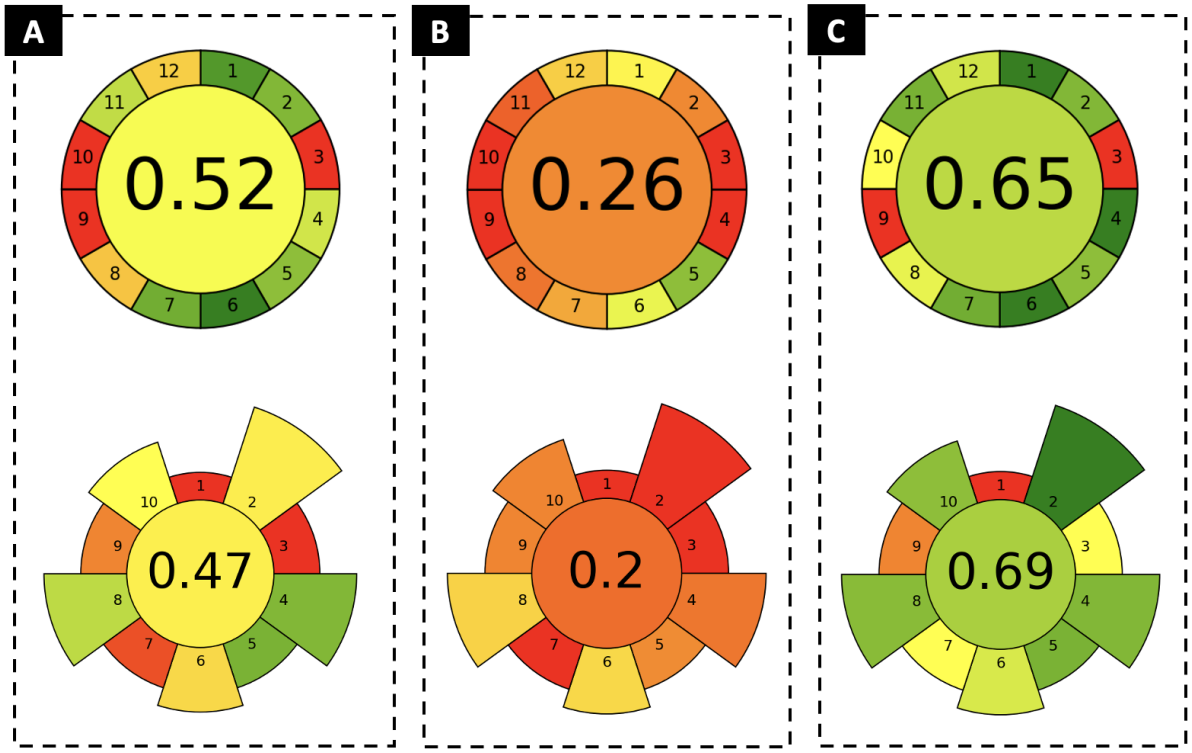

Figure S2. Diagrams obtained in the greenness assessment of representative reported methods for determining BPA using AGREE and AGREEprep metrics: (A) [36], (B) [13] and (C) the developed HES-TPP system considering a decrease in sample size.

Table S1. Compounds used in this work for HES preparation, water solubility, and hydrophobicity.

Compound	**Water solubility ($g \cdot L^{-1}$)** [35]	**Hydrophobicity (Log Kow)** [23]
Thymol (TH)	0.8	3.28
L-menthol (M)	0.4	3.19
Benzyl alcohol (BE)	40	1.10
Cyclohexanol (C)	37.6	1.23
Decanoic acid (DE)	0.06	4.09
Trioctylphosphine oxide (T)	Insoluble	9.76

Table S2. Percentage extraction efficiencies of BPA (E_{BPA} %) using different HES and HES mole ratios.

HES	**HES mole ratios**	**E_{BPA} (%)**
TH:M	0.2:0.8	88 ± 2
	0.3:0.7	87 ± 1
	0.5:0.5	88 ± 2
	0.65:0.35	55 ± 3
BE:C	0.2:0.8	88 ± 2
	0.3:0.7	90 ± 3
	0.5:0.5	91 ± 4
	0.65:0.35	89 ± 3
DE:T	0.5:0.5	74 ± 4

Table S3. Percentage extraction efficiencies of BPA (E_{BPA} %) using different HES:aqueous solution ratios as obtained with UV measurement.

HES	**HES:aq sol ratio (w/w)**	**E_{BPA} (%)**
TH:M	1:2	68 ± 4
	1:1	88 ± 2
	2:1	88 ± 1
BE:C	1:2	37 ± 4
	1:1	91 ± 4
	2:1	82 ± 3
DE:T	1:2	53 ± 2
	1:1	74 ± 4
	2:1	92 ± 3

Table S4. Percentage extraction efficiencies of BPA (E_{BPA} %) using BE:C (0.5: 0.5 mol/mol) at different times.

Time (min)	E_{BPA} (%)
2	7 ± 1
5	26 ± 2
10	29 ± 4
15	54 ± 4
20	54 ± 1

Table S5. Percentage extraction efficiencies of BPA (E_{BPA} %) using different HES types as obtained with UV measurement.

HES	E_{BPA} (%)	
	Blood 1*	Blood 2*
TH:M	76 ± 2	76 ± 3
BE:C	54 ± 4	57 ± 2
DE:T	69 ± 2	63 ± 7

[*] *The results were obtained with different blood samples, with the aim of confirming the reproducibility of the process.*

Table S6. Percentage extraction efficiencies of BPA (E_{BPA} %) from water and blood as obtained by LC-MS/MS analysis.

HES	Blood	E_{BPA} (%)
TH:M	No	96 ± 2
	Yes	84 ± 1
BE:C	No	98 ± 3
	Yes	99 ± 3

References (ESI)

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[23] ChemSpider, (2023). https://www.chemspider.com/ (accessed November 3, 2023).

[35] Merk, Sigma-Aldrich, (2023).https://www.sigmaaldrich.com/PT/en/product/aldrich/w266590,

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