

Beta-Cyclodextrin-Decorated Magnetic Activated Carbon as a Sorbent for Extraction and Enrichment of Steroid Hormones (Estrone, β -Estradiol, Hydrocortisone and Progesterone) for Liquid Chromatographic Analysis

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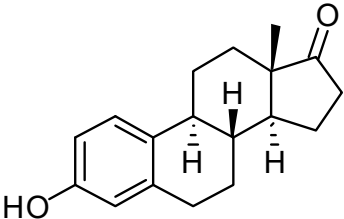
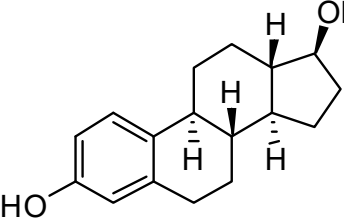
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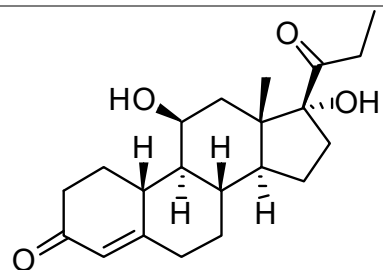
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Table S1. Structural and physical properties of target analytes.

Compound	Molecular weight (g/mol)	pK _a	Log K _{ow}
 Estrone (E1)	270.37	10.7	4.1
 Estradiol (E2)	272.38	10.7	3.7

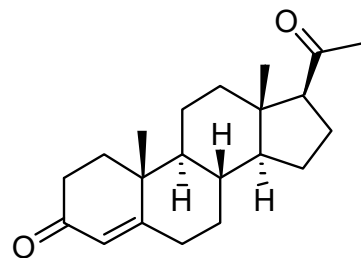


362.46

13.8

1.6

Hydrocortisone (HYD)



270.37

18.9

3.9

Progesterone (PRO)

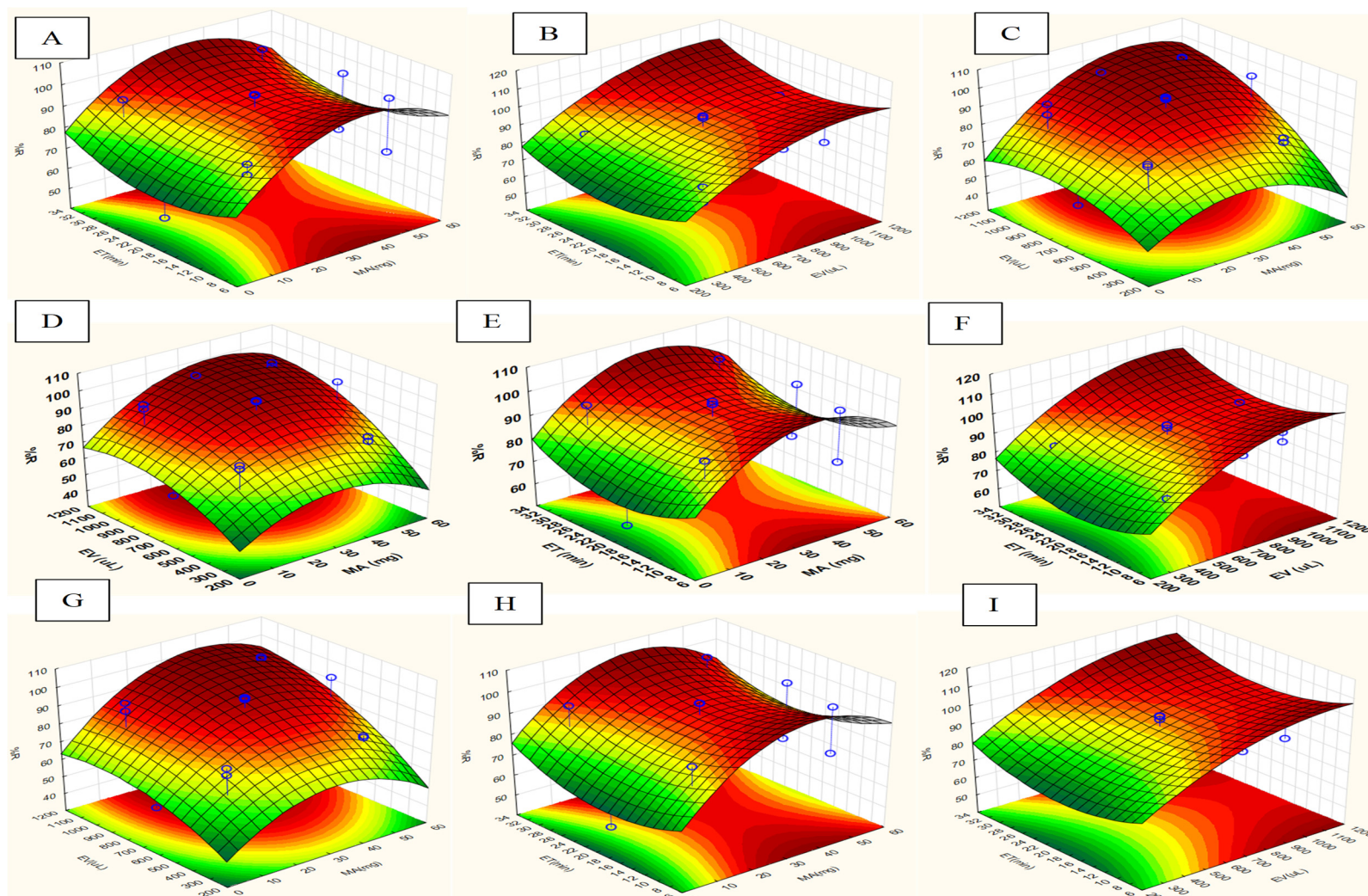
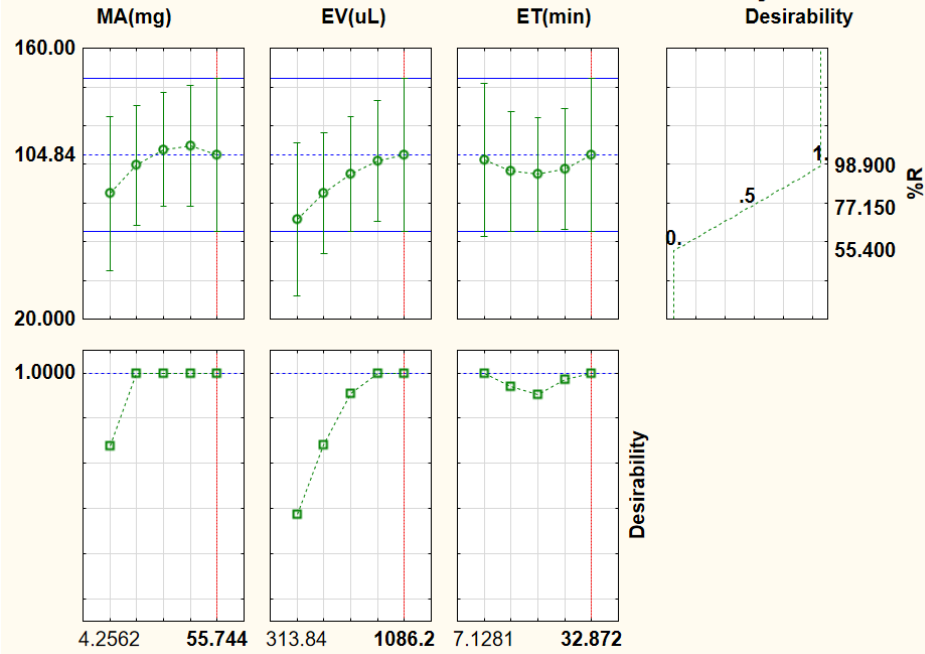
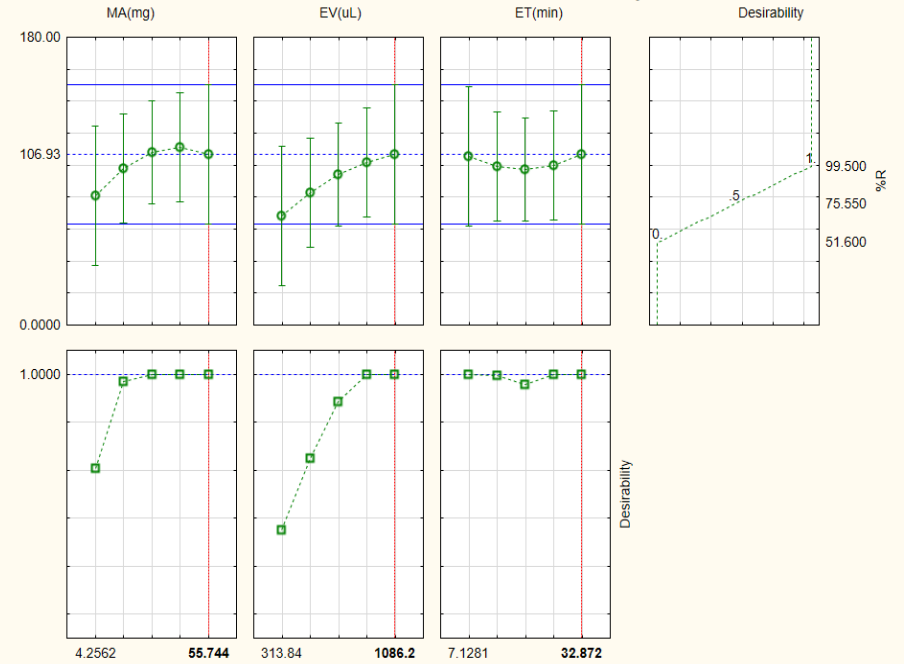


Figure S1. Three dimensional response surface plot showing the result (E2 (A-C), HYD (D-F) and PRO (G-I) of the interaction of (A) eluent volume (EV) and mass of adsorbent (MA), (B) extraction time (ET) and MA and (C) EV and ET on % R.

Profiles for Predicted Values and Desirability



Profiles for Predicted Values and Desirability



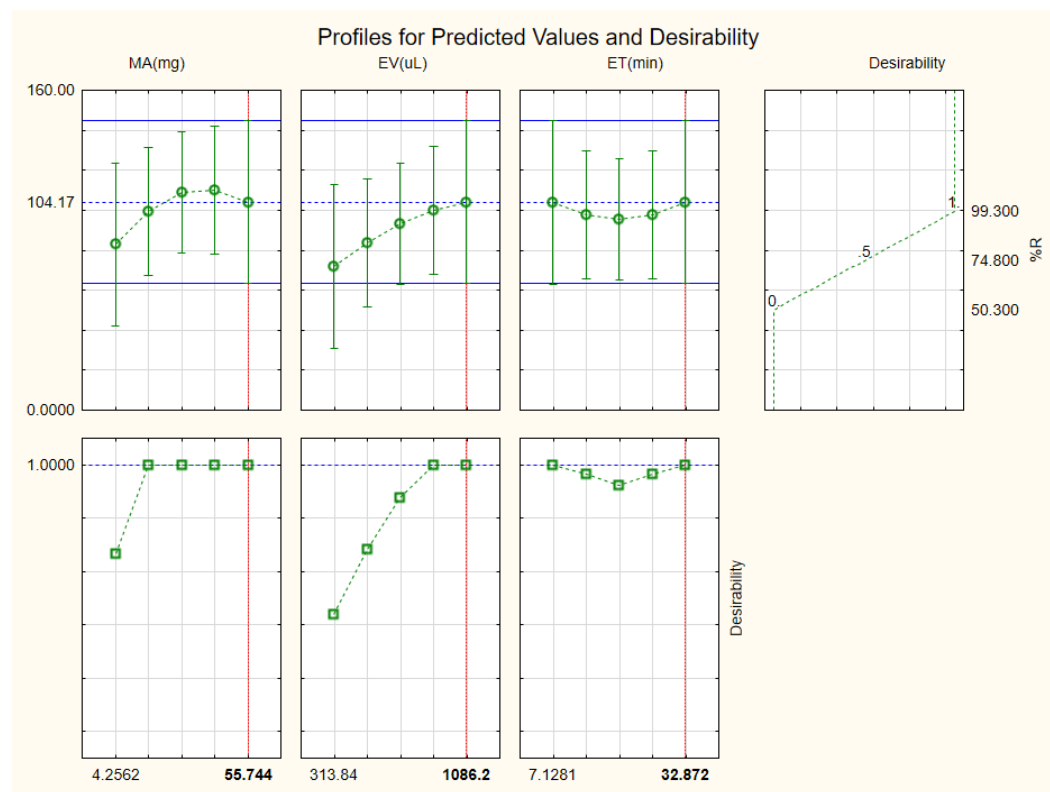


Figure S2. Profiles for desirability for the extraction of E2, HYD and PRO.

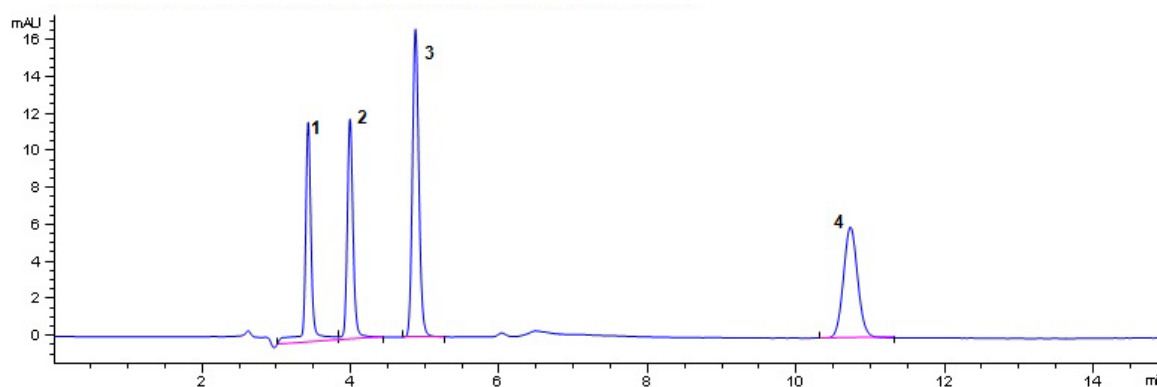


Figure S3. Typical chromatogram of steroid hormones showing peaks for 1: estrone, 2: β -estradiol, 3: hydrocortisone and 4: progesterone at 250 nm. 1.00 mL min⁻¹ flow rate, solvent mixture of 55 % mobile phase A (water) and 45 % mobile phase B (acetonitrile), using an isocratic elution system.