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Electronic Supplementary Material (ESI) for Analytical Methods.
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Supplementary Information for Analytical methods

Efficient determination of non-steroidal anti-inflammatory drugs by micellar electrokinetic chromatography in wastewater

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Supplementary figures

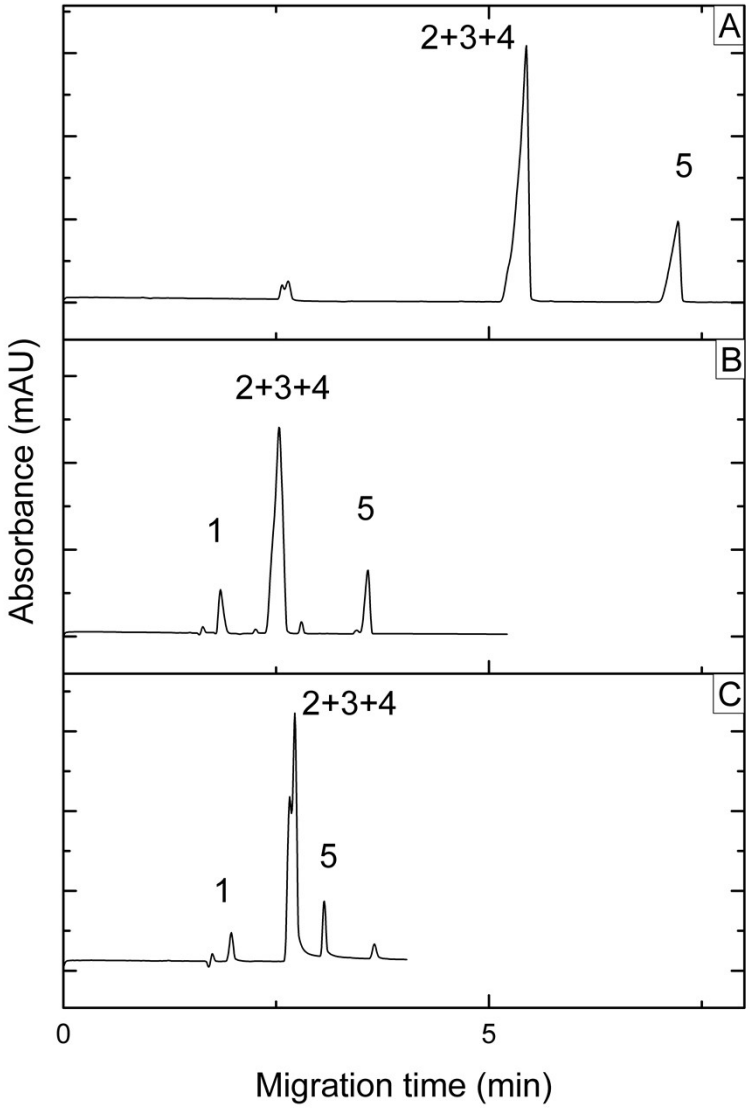


Figure. S1 Electropherogram of CZE separation: Peak: 1- PAC, 2- DIC, 3-KET, 4- IB, 5- ASA; using different BGE: (A) 20 mM acetate BGE at pH 5.5 , (B) 20 mM phosphate BGE at pH 9, (c) 20 mM borate BGE at pH 9.

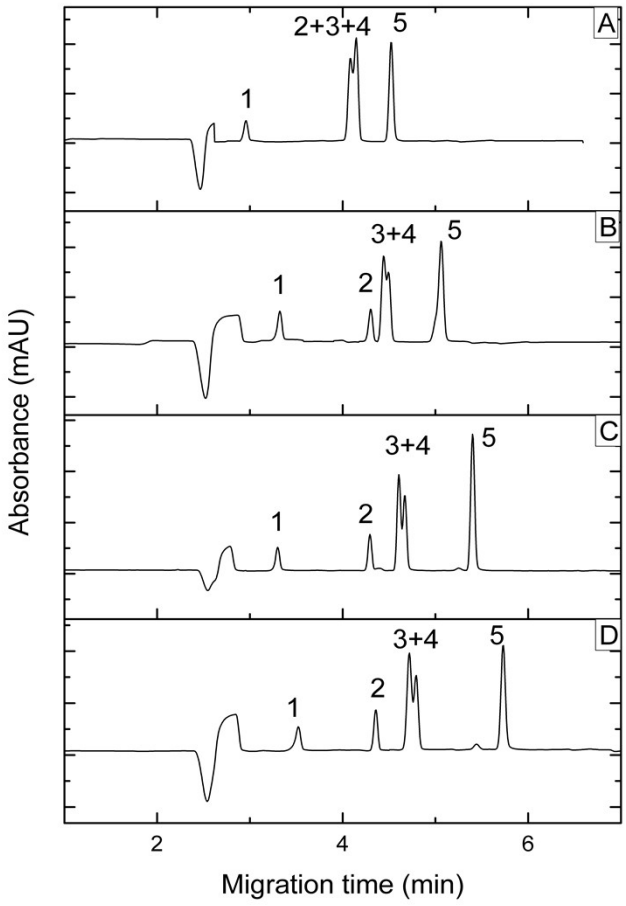


Figure. S2 MEKC electropherograms show the effect of SDS concentration on the separation of NSAIDs (A) 50 mM, (B) 70 mM, (C) 90 mM, (D) 110 Mm; Peak: 1- PAC, 2- ASA, 3-KET, 4-IB, 5- DIC at concentration of 750 µg/L each; Capillary: 50 µm id 31.5 cm (effective length) 40 cm (total length); BGE: 15 mM borate buffer, pH 9; separation voltage: 15 kV.

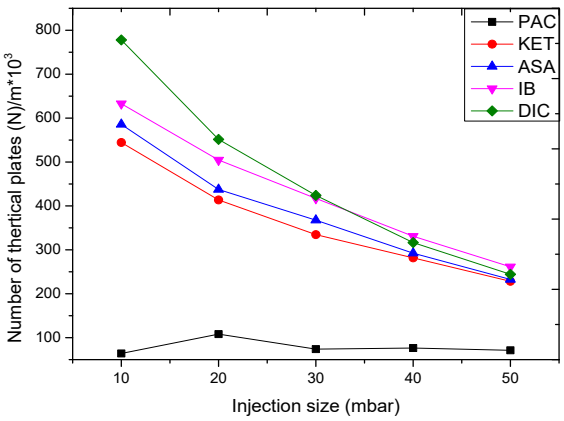


Figure. S3 The effect of injection size on the efficiency

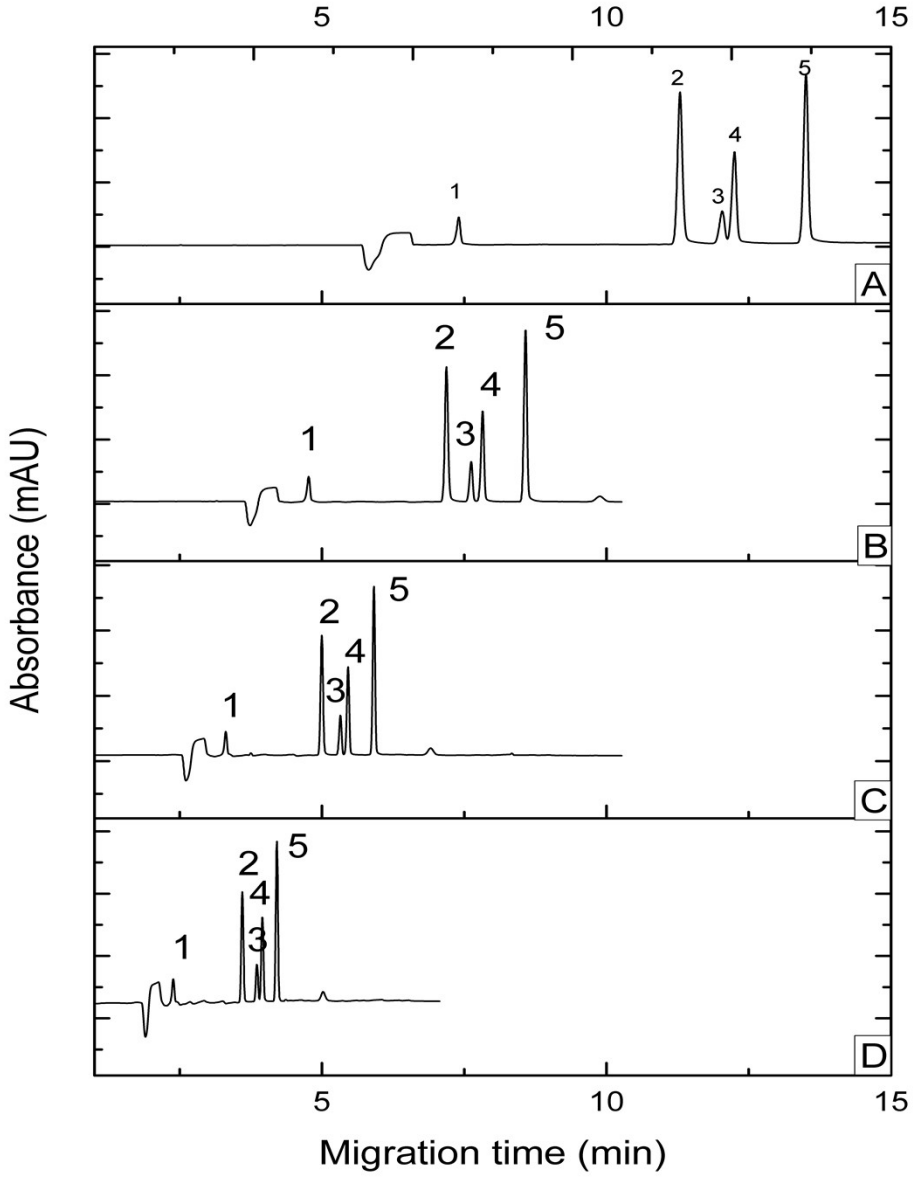


Figure. S4 MEKC electropherograms show the effect of voltage on the separation of NSAIDs (A) 10, (B) 15, (c) 20, (D) 25 kV; Peak: 1- PAC, 2- ASA, 3-KET, 4- IB, 5- DIC at a concentration of 750 µg/L each; Capillary: 50 µm id 31.5 cm (effective length) 40 cm (total length); BGE: 15 mM borate buffer, pH 9, 90 mM SDS, 10% methanol; separation voltage: 15 kV; hydrodynamic injection: 10 mbar/5s.

Table S1. Structures of the investigated compounds

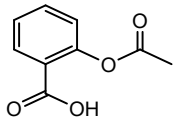
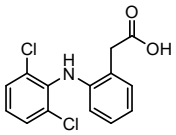
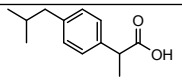
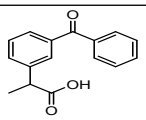
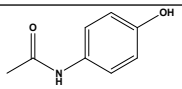
Analytes	Chemical structure	MW	pKa
ASA		180.16	3.15
DIC		318.13	4.15
IB		206.28	4.60
KET		254.28	4.0
PAC		151.16	9.5

Table S2. The recoveries of investigated compounds in (100 µg/L) spiked wastewater samples

	Recovery (RSD%)	
	C18	Oasis HLB
Analyte	**Wastewater sample**	**Wastewater sample**
IB	83.8 (13.2%)	40 (19%)
KET	91.1 (11%)	28.1 (24%)
DIC	118.1 (15.5%)	22.7 (28.5%)
ASA	36.5 (14.7%)	65.2 (11.6%)
PAC	-	122.4 (9.3%)