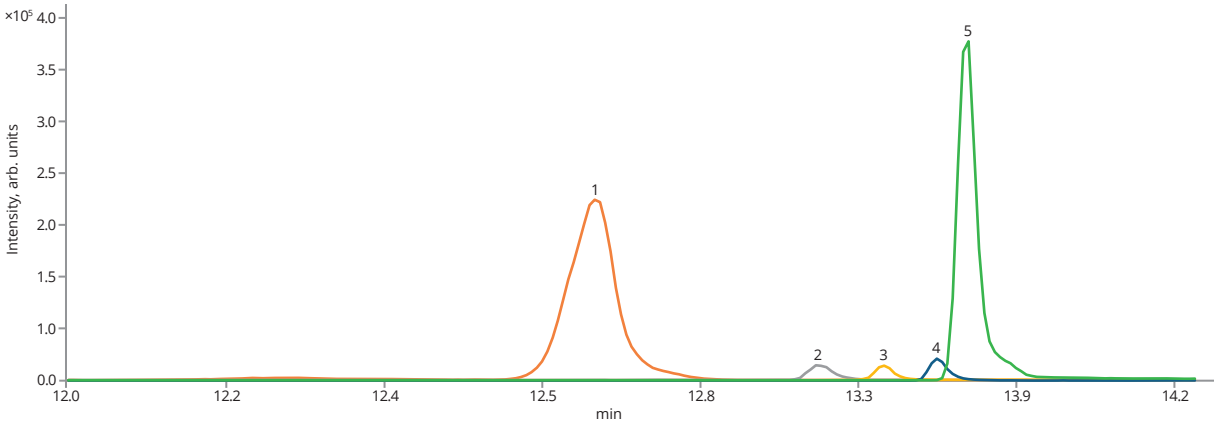
Bisphenols by online SPE and LC-MS/MS

Based on the toxicity of bisphenols to human health and aquatic ecosystem, BPA and its analogues should be strictly controlled in different environmental matrices at low concentrations. The sample preparation step is time-consuming and critical for analytical determination of BPs due to complex analytes pre-concentrating. Online SPE-LC-MS/MS method provides sensitive, effective, rapid, and simple extraction and analysis of bisphenols in water sample matrix.



Bisphenols on ASTRA® C18 AQ column

	Precursor (m/z)	Product (m/z)	Colision energy (V)
Bisphenol S	249	108	20
Bisphenol F	199	93	15
Bispenol AF	335	265	14
Bisphenol A	227	212	11
Bisphenol B	241	212	11

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Bisphenols by online SPE and LC-MS/MS

Online SPE Column	ASTRA® C18 AQ, 10 µm			
Dimensions	30 mm × 2.1 mm			
Part number	AST-5832-PD21			
Loading time	0–3 min			
Analytical Column	ASTRA® C18 AQ, 5 µm			
Dimensions	50 mm × 2.1 mm			
Part number	AST-5832-LG21			
Elution time	3–20 min			
Mobile phase	A: DDW B: MeOH			
Gradient elution	**Time (min)**	**A (%)**	**B (%)**	**Flow rate (µL/min)**
	0	100	0	450
	1	100	0	1500
	3	100	0	1500
	3.05	100	0	450
	6	100	0	450
	10	0	100	450
	15	0	100	450
	15.05	100	0	450
	20	100	0	450
Temperature	23 °C			
Injection volume	1 mL			
Detection	online SPE-LC-MS/MS-negative MRM mode			
MS instrument	Bruker EVOQ® DART-TQ+			
Sample	5 ng/L in DDW			
Analytes	**1. Bisphenol S, CAS number 80-09-1** **2. Bisphenol F, CAS number 620-92-8** **3. Bisphenol A, CAS number 80-05-7** **4. Bisphenol B, CAS number 77-40-7** **5. Bisphenol AF, CAS number 1478-61-1**			

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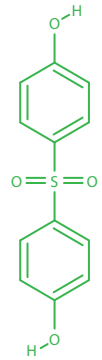
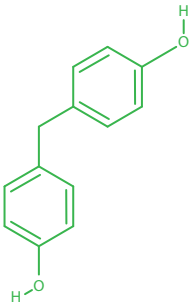
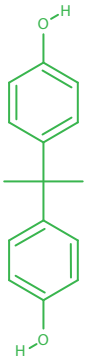
Bisphenols by online SPE and LC-MS/MS



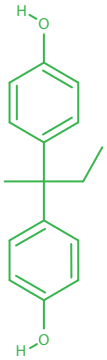
Bisphenol S



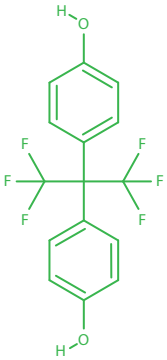
Bisphenol F



Bisphenol A



Bisphenol B



Bisphenol AF