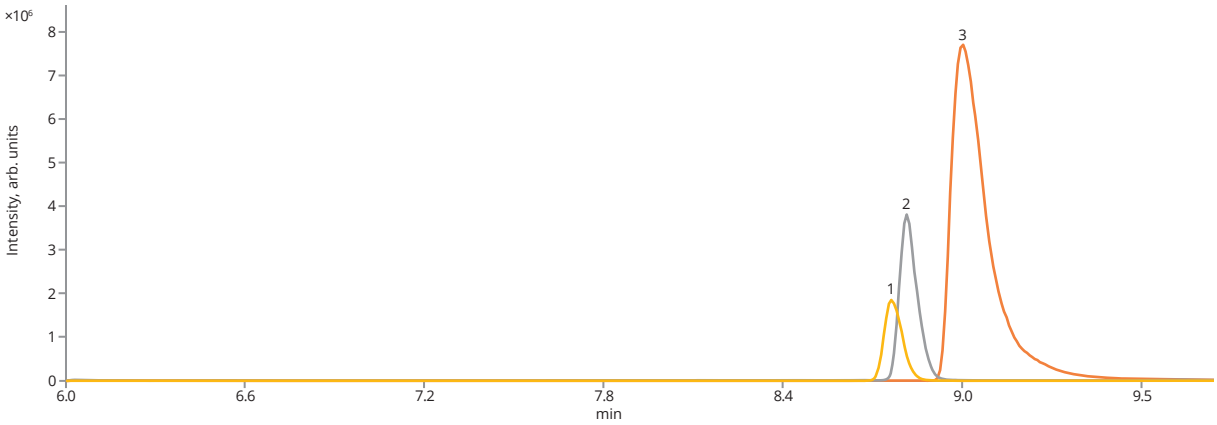
Analysis of small polar compounds

Using of reversed phase liquid chromatography for analysis of small polar compounds is challenging. Often the derivatization step is needed that cause a longer sample preparation and problem with accuracy and precision of the method. A better option to separate polar analytes is to use hydrophilic interaction LC. ASTRA® Si column allows to separate such polar compound as metformin, guanylurea and melamine. HILIC technique can be applicable in the toxicological, pharmaceutical, and environmental fields where analysis of small polar compounds is required.



Mixture of polar compounds on ASTRA® Si column

	Precursor (m/z)	Product (m/z)	Colision energy (V)
Guanylurea	103	60.2	6
Melamine	127	85	14
Metformin	130	60.2	5

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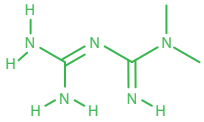
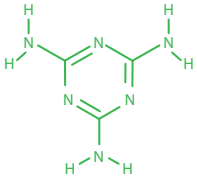
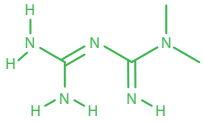
Column	ASTRA® Si, 3 µm			
Dimensions	150 mm × 2.1 mm			
Part number	AST-5905-IK21			
Mobile phase	A: DDW+0.1% FA B: ACN+0.1% FA			
Gradient elution	**Time (min)**	**A (%)**	**B (%)**	**Flow rate (µL/min)**
	0	5	95	350
	3	5	95	350
	6	50	50	350
	10	50	50	350
	11	5	95	350
	17	5	95	350
Temperature	23 °C			
Injection volume	10 µL			
Detection	LC-MS/MS-positive MRM mode			
MS instrument	Bruker EVOQ® DART-TQ+			
Sample	10 ng/mL in MeOH			
Analytes	**1. Guanylurea, CAS number 141-83-3** **2. Melamine, CAS number 108-78-1** **3. Metformin, CAS number 657-24-9**			



Guanylurea



Melamine



Metformin