

ESI 1 Overview about published sugar phosphates separation methods.

Ref.	Separation method	Detection method	Application	Compounds	LODs
9	Anion exchange liquid chromatography	Fluorescence detector	Leaf extracts	DHAP, F6P, FBP, G1P, G6P, R5P, RI5P, RIBP	
10	Anion exchange liquid chromatography	Pulsed amperometric detection	Blood spot samples	G1P, G6P, Gal1P, M6P, R5P	0.04-0.13 µM
11	Anion exchange liquid chromatography	Refractive index detector			
15	Anion exchange liquid chromatography	ESI-MS/MS	<i>Saccharomyces cerevisiae</i> cell extract	2PG, 3PG, G1P, G6P, F6P, FBP	0.07-0.4 µM
14	Anion exchange liquid chromatography	UV	Adherent Madin–Darby canine kidney cell extracts	2PG, 3PG, G6P, F6P, FBP	0.02-0.22µM
13	Anion exchange liquid chromatography, coupled with ion suppressor	ESI-MS/MS	<i>Arabidopsis thaliana</i> extracts	3PG, FBP, F6P, G1P, G6P, GBP, M6P, R5P, RI5P, RBP	0.01-2.5 µM
12	Anion exchange liquid chromatography	Pulsed amperometric detection	<i>Arabidopsis thaliana</i> tissue extracts	G1P, G6P, Gal1P	
25	ZIC HILIC	ESI-MS/MS	Fermentation broths from beta-lactam antibiotics production	2PG, 3PG, F6P, G1P, G6P, R5P, RI5P, M1P, M6P, XI5P	
24	ZIC HILIC	ESI-MS	<i>Arabidopsis thaliana</i> leaf extracts	F6P, FBP, G1P, G6P	1-2 µM
20	Reversed phase ion pairing	Orbitrap MS	<i>Saccharomyces cerevisiae</i> cell extract	3PG, E4P, F6P, FBP, G6P	
21	Reversed phase ion pairing	ESI-MS/MS	<i>Escherichia coli</i> cell extracts	2PG, 3PG, 3GAP, 6PGA, DHAP, E4P, F6P, FBP, G6P, R5P, RI5P, S7P, XI5P	0.001-0.032 µM
22	Reversed phase ion pairing	ESI-MS/MS	Different samples of biological origin	3GAP, E4P, F1P, F6P, FBP, G1P, G6P, M1P, M6P	
32	Reversed phase/weak anion exchange	Charged aerosol detector	Standard solution for investigation of the separation	2PG, 3PG, 3GAP, DHAP, F6P, G1P, G6P, M1P, M6P, R5P, RI5P, XI5P	
33	HPLC with pentafluorophenylpropyl stationary phase	ESI-MS/MS	<i>Methylobacterium extorquens</i> AM1 cell extracts	6PGA, F6P, G6P	0.05-0.35 µM
26	HPLC employing porous graphitized carbon stationary phase	ESI-MS/MS ion trap	<i>Arabidopsis thaliana</i> tissue extracts	F6P, G1P, G6P	5 µM
6	Capillary electrophoresis	ESI-MS/MS	<i>Bacillus subtilis</i> cell extracts	2PG, 3PG, F6P, FBP, G1P, G6P	0.3-6.5 µM

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7	Capillary electrophoresis	ESI-MS/MS	<i>Physcomitrella patens</i> extracts	F6P, G1P, G6P, Gal1P, M6P, R5P, RI5P	0.9-2.2 μ M
8	Capillary electrophoresis	ESI-MS/MS	<i>Catharanthus roseus</i>	3GAP, DHAP, E4P, F6P, FBP, G1P, G6P, R5P, RI5P, S7P,	0.07-0.85 μ M
4	Gas chromatography	EI-MS	<i>Saccharomyces cerevisiae</i> cell extract	3GAP, DHAP, E4P, F6P, G6P, R5P, RI5P, S7P, XI5P	0.0006-0.194 μ M
5	Gas chromatography	EI-MS	<i>Saccharomyces cerevisiae</i> cell extract	2PG, 3PG, 6PGA, F6P, G6P, R5P	
30	Off-line 2D-LC-MS/MS, SCX combined with HILIC	ESI-MS	<i>Saccharomyces cerevisiae</i> and <i>Escherichia coli</i> cell extract	3GAP, DHAP, E4P, F6P, FBP, G1P, G6P, S7P	Qualitative method