

Article

Methodological Aspects of Green Extraction of Usnic Acid Using Natural Deep Eutectic Solvents

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Table S1. Usnic acid solubility in hydrophilic NADES at 20°C.

Natural Deep Eutectic Solvents	Molar ratio	Solubility (mg/100 ml)
Proline-based		
Proline : urea	1:1	13.30
Proline : levulinic acid	1:2	9.28
Proline : glycerol : saccharose	4:1:1	5.77
Proline : glycerol : saccharose	4:3:1	2.68
Proline : glycerol : saccharose	4:5:1	4.31
Proline : glycerol : saccharose	4:7:1	2.82
Proline : glycerol : saccharose	4:9:1	2.82
Proline : glycerol : saccharose	4:11:1	3.19
Proline : glycerol : saccharose	4:13:1	2.05
Proline : glycerol	1:1	4.59
Proline : glucose	1:1	2.90
Proline : tartaric acid : citric acid	1:1:1	1.85
Proline : fructose	1:1	1.31
Proline : citric acid	1:1	0.44
Proline : citric acid	1:2	0.34
Urea-based		
Urea : choline chloride	2:1	9.57
Urea : glycerol : citric acid	1:2:1	1.45
Urea : glycerol : citric acid	1:3:1	2.70
Urea : choline chloride : levulinic acid	1:1:1	0.74
Betaine-based		
Betaine : glycerol	1:2	5.01
Betaine : levulinic acid	1:2	3.74
Betaine : saccharose	4:1	1.22
Betaine : lactic acid : water	1:1.8:1	0.56
Betaine : glycerol : saccharose	4:5:1	0.31
Choline chloride-based		
Choline chloride : levulinic acid	1:2	3.55
Choline chloride : lactic acid : water	1:1.8:1	0.69
Choline chloride : lactic acid : water	1:2.7:1.5	1.92
Choline chloride : glycerol : saccharose	4:5:1	0.66
Choline chloride : citric acid : glycerol	1:1:1	0.60
Choline chloride : saccharose	4:1	0.29

Choline chloride : citric acid	1:1	0.08
Choline chloride : citric acid	2:1	0.03
Choline chloride : citric acid	3:1	0.02
Choline chloride : citric acid	1:2	0.16
Choline chloride : glycerol	1:2	0.14
Choline chloride : glycerol	1:1	0.13
Choline chloride : glucose	5:2	0.01
Choline chloride : glucose	2:1	0.01
Choline chloride : fructose	1:1	0.01
Choline chloride : fructose	5:2	0.02
Glycerol-based		
Glycerol : fructose	1:1	2.30
Glycerol : tartaric acid	1:1	2.03
Glycerol : citric acid	2:1	0.70
Lactic acid-based		
Lactic acid : water : glucose : fructose	0.9:0.5:1:1	1.83
Lactic acid : water : glucose	7.2:4:1	0.88
Lactic acid : water : glucose : citric acid	0.9:0.5:1:1	0.42
Lactic acid : water : β -alanine	0.9:0.5:1	0.33
Citric acid-based		
Citric acid : glucose	1:1	1.44
Citric acid : glucose	2:1	0.16
Citric acid : saccharose	1:1	0.65
Citric acid : β -alanine	1:1	0.35