Table S7 Generalization ability of the proposed ANN and RSM model.

ATPS	Object	Polymer or alcohol	Salt	Temperature	Design of experiment	Number of data	MRPD		Ref
							ANN	RSM	
UCON-$Na_3C_6H_5O_7$	flavonoids	0.0205~0.1050 g·mL^{-1}	0.0695~0.1710 g·mL^{-1}	8~42 ˚C	FFD [a]	30	0.05	6.32	Present study
Alcohol-NaH_2PO_4	flavor	28~36%	4.5 ~5.0 g	25 ˚C	BBD [b]	17	11.12	27.71	[29]
PEG-citrate-NaCl	α-amylase	9~19%	10%~30%	room temperature	CCD [c]	20	12.29	23.79	[30]
POELE10-$(NH_4)_2SO_4$	thiamphenicol	0.021~0.033 g·mL^{-1}	0.138~0.150 g·mL^{-1}	288.15~ 308.15 K	CCD	26	14.76	15.13	[31]
POELE10-NaH_2PO_4	chloramphenicol	0.021~0.033 g g·mL^{-1}	0.174~ 0.198 g·mL^{-1}	15~35 ˚C	CCD	26	15.38	18.93	[32]
POELE10-$Na_2C_4H_4O_6$	sulfadiazine	0.024~0.030 g g·mL^{-1}	0.162~ 0.180 g·mL^{-1}	15~35 ˚C	OD [d]	9	19.72	19.92	[33]
POELE10- $Na_2C_4H_4O_6$	sulfamethazine	0.024~0.030 g g·mL^{-1}	0.162~ 0.180 g·mL^{-1}	15~35 ˚C	OD	9	18.34	19.88	

PEG-phosphate-NaCl	canavalia brasiliensis lectin	16.5~18.5%	17.5~21.5%	25 ˚C	CCD	26	19.73	25.06	[34]

[a] FFD Full factorial design

[b] BBD Box-Behnken design

[c] CCD Central composite design

[d] OD Orthogonal design