Curcumin Solubility and Bioactivity Enhancement Through Amorphization with Tryptophan via Supercritical Fluid Technology

Ewa Garbiec, Natalia Rosiak, Szymon Sip, Przemysław Zalewski and Judyta Cielecka-Piontek *   5

Department of Pharmacognosy and Biomaterials, Poznan University of Medical Sciences, Rokietnicka 3 Str.,   6
60-806 Poznan, Poland; ewa.garbiec@student.ump.edu.pl (E.G.); nrosiak@ump.edu.pl (N.R.);   7
szymonsip@ump.edu.pl (S.S.); pzalewski@ump.edu.pl (P.Z.)   8
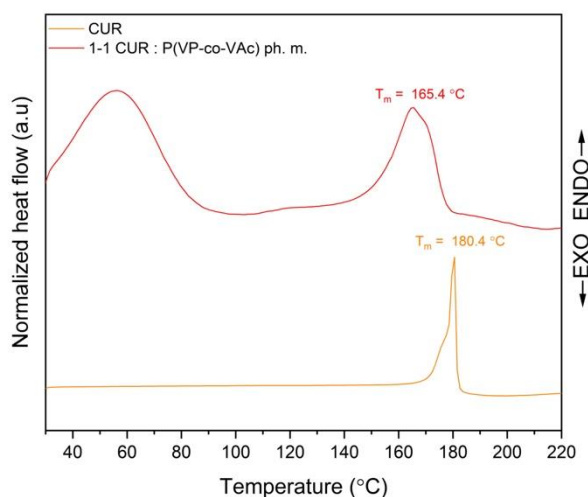* Correspondence: jpiontek@ump.edu.pl   9

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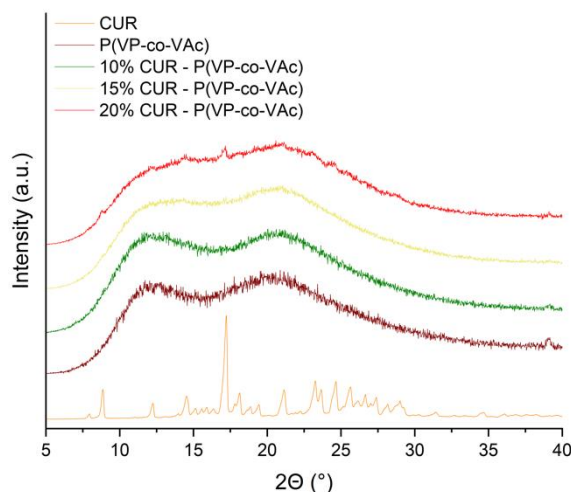**Figure S1.** DSC thermograms of CUR and CUR:P(VP-co-VAc) physical mixture prepared at a 1:1   11
ratio.   12

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Figure S2. XRPD diffraction patterns of CUR, P(VP-co-VAc), and binary CUR-P(VP-co-VAc) system with 10%, 15%, and 20% CUR content.
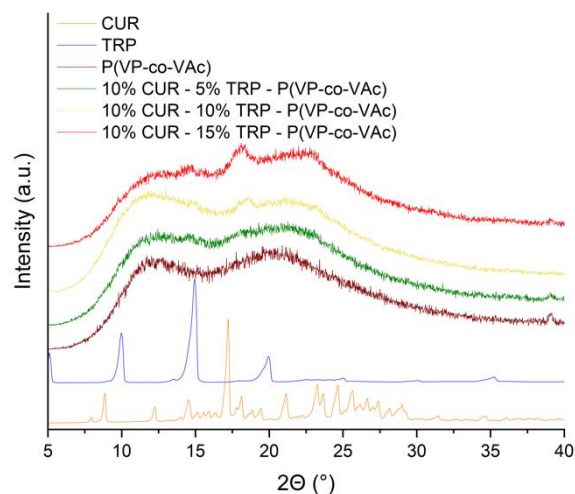
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Figure S3. XRPD diffraction patterns of CUR, TRP, P(VP-co-VAc), and ternary CUR-TRP-P(VP-co-VAc) system with 10% CUR and 5%, 10%, and 15% TRP content.
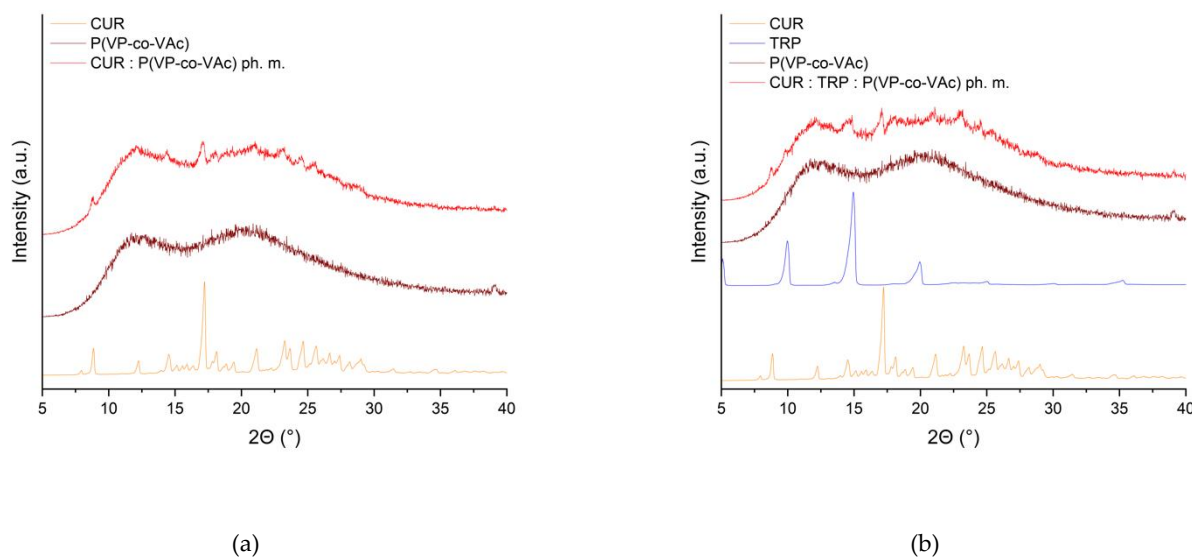
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(a)

(b)

Figure S4. XRPD diffraction patterns of CUR, P(VP-co-VAc), and binary CUR:P(VP-co-VAc) physical mixture **(a)** and CUR, TRP, P(VP-co-VAc), and ternary CUR:TRP:P(VP-co-VAc) physical mixture **(b)**.
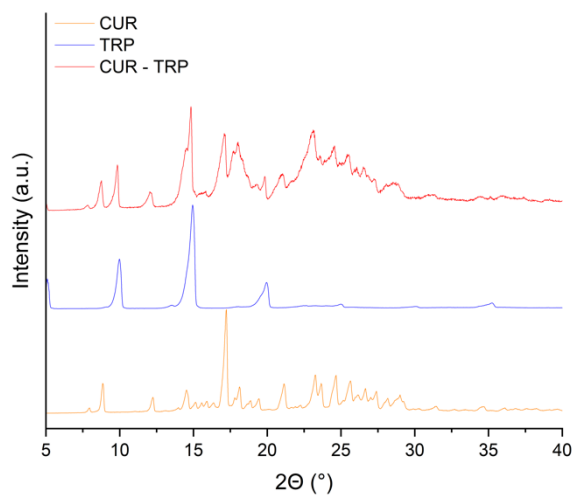
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Figure S5. XRPD diffraction patterns of CUR, TRP, and CUR-TRP system prepared by means of a SCF method.
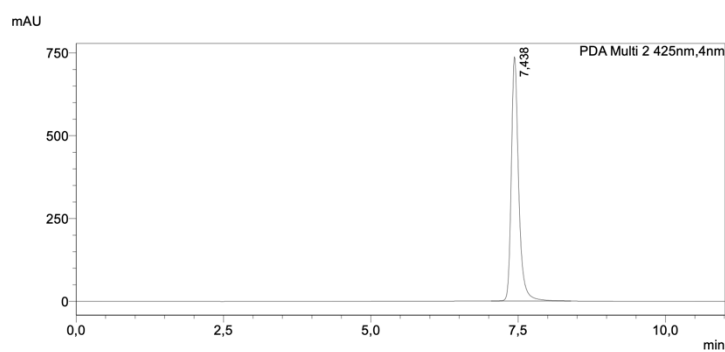

Figure S6. Chromatogram of CUR for the developed method.

Table S1. Validation parameters of HPLC-DAD method for concentration determination of CUR.

Linearity range (mg·mL^{-1})	0.00002-0.3
Correlation coefficient (r)	0.9998
a ± Sa	11149771288.40 ± 43899858.98
b ± Sb	insignificant (α=0.05)
LOD (mg·mL^{-1})	0.00003899
LOQ (mg·mL^{-1})	0.00011815
Retention time (min)	7.44