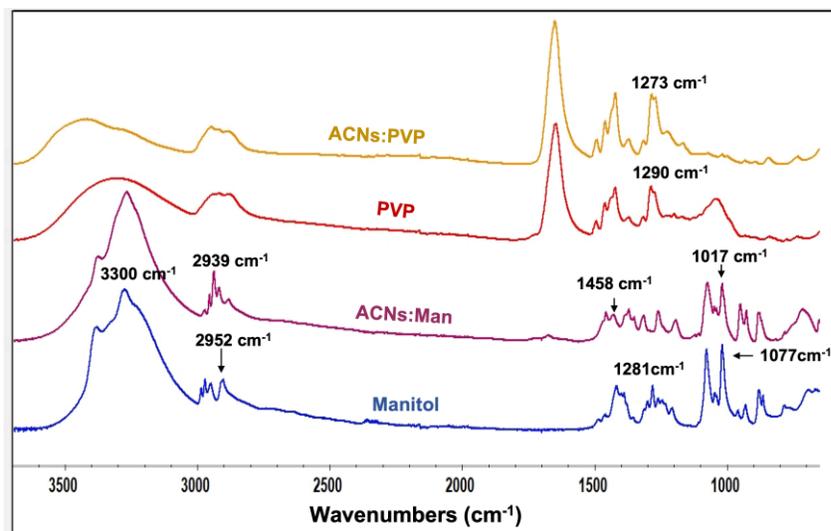
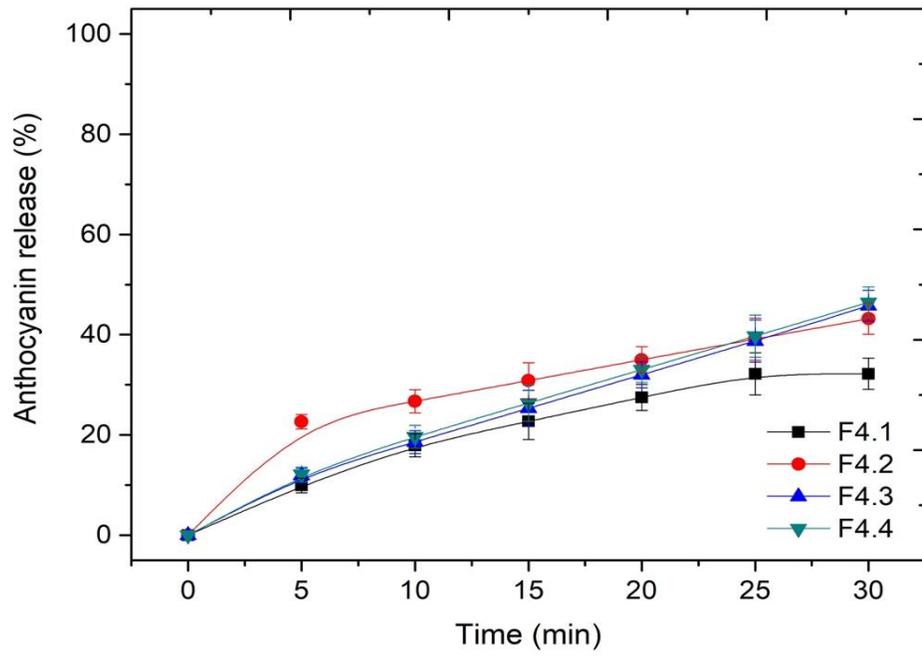


## SUPPLEMENTARY MATERIAL



**Figure S1.** FTIR spectra of Mannitol, Anthocyanins:Mannitol (ACNs:Man), Polyvinylpyrrolidone (PVP) and Anthocyanins:Polyvinylpyrrolidone (ACNs:PVP).

The mannitol spectrum exhibited a strong signal at  $3300\text{ cm}^{-1}$  related to the -OH stretching in hydrogen bonds. The signal at  $2952\text{ cm}^{-1}$  was attributed C-H vibrations and the bands  $1281.1$  and  $1077\text{ cm}^{-1}$  belonged to C-O and C-C stretching, respectively. In Anthocyanins:Mannitol (ACNs:Man) spectrum (Figure S1) the hydrogen group increased its intensity at  $3300\text{ cm}^{-1}$ . The C-H signal shifted to  $2939\text{ cm}^{-1}$ , while the peaks related to C=C and C-H stretching became sharper, less intense and with new signals ( $1458$  and  $1017.7\text{ cm}^{-1}$ , respectively). In PVP, the sign of the C-H group shifted to  $2947\text{ cm}^{-1}$ , while the C=O overlapped at the band at  $1646\text{ cm}^{-1}$  due to its interaction with C=O groups of ACNs. In addition, the PVP vibration signature at  $1290\text{ cm}^{-1}$ , related C-N vibrations, became  $1273.2\text{ cm}^{-1}$  in Anthocyanins:Polyvinylpyrrolidone (ACNs:PVP) spectrum possibly due to its interaction with ACNs pyran rings [39,40].



**Figure S2.** Dissolution profiles of ANNs formulations for immediate gastric release (F4.1, F4.2, F4.3 and F4.4, 30 min/SGF)

**Table S1.** Detailed composition of the monolithic tablets.

Sample	Composition (% w/w)									
	CMS	ACNs	ACNs:Man	ACNs:PVP	ACNs:CMS*	CCS	Prosolv•	Gum arabic	Explotab•	MCC
F1	50	50	-	-	-	-	-	-	-	-
F2	50	-	50	-	-	-	-	-	-	-
F3	50	-	-	50	-	-	-	-	-	-
F4	-	-	-	-	100	-	-	-	-	-
F4.1	-	-	-	-	90	10	-	-	-	-
F4.2	-	-	-	-	67	6	27	-	-	-
F4.3	-	-	-	-	67	6	-	27	-	-
F4.4	-	-	-	-	47	-	-	35	18	-
F4.5	-	-	-	-	47	-	-	-	18	35
F4.6	-	-	-	-	47	18	-	-	-	35
F4.7	-	-	-	-	55	10	-	-	-	35
F4.8	-	-	-	-	80	10	-	-	-	10

CMS - Carboxymethyl starch; ACNs - Anthocyanin dried extract; ACNs:Man -Anthocyanins:Mannitol powder; ACNs:PVP - Anthocyanins:Polyvinylpyrrolidone powder; CCS - Crosscarmellose sodium; MCC - Microcrystalline cellulose; \*ACNs:CMS: Complex obtained from the mixture and freeze-drying of CMS with ACNs.