Enhanced Biopharmaceutical Performance of Rivaroxaban through Polymeric Amorphous Solid Dispersion

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Table SI. χ value calculated by melting point depression method

Drug-Polymer	χ value near melting temperature (230.59 °C)
RXB-Soluplus	-0.3752
RXB-EL100	-0.7076
RXB-ES100	-0.7395

Table SII. T_g values (midpoint) obtained for the optimized formulations

System	Glass Transition Temperature (T_g) °C
RXB	83
ASD-L100	126.12
ASD-S100	122.39
ASD-SLPS	71.32

Table S III. Change in chemical shift of proton at amide group of RXB in ASDs

System	Proton chemical shift (δ)	Change in chemical shift (Δδ)
RXB	9.0128	-
ASD-L100	8.9890	0.0238
ASD-S100	8.9902	0.0226
ASD-SLPS	9.0300	0.0172

Table S IV. Moisture uptake by samples at 90%RH

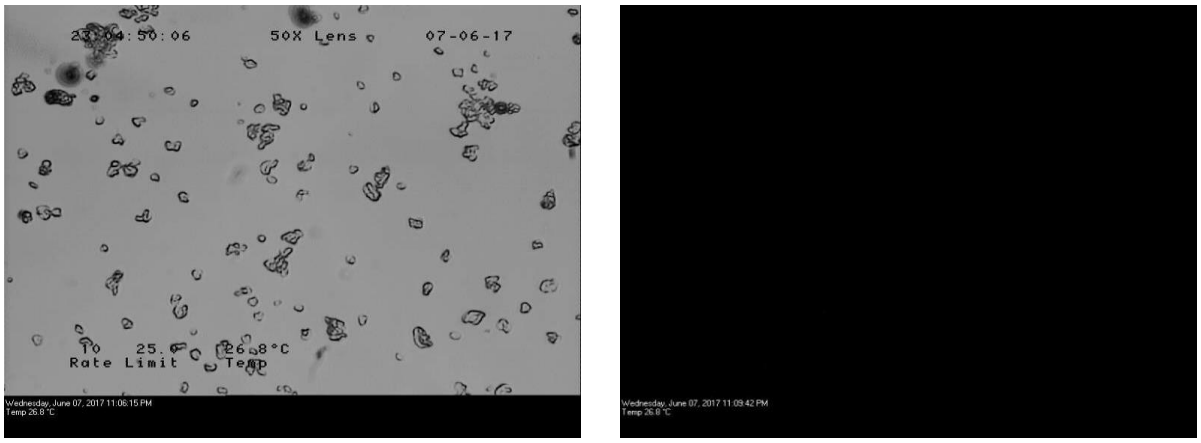
Formulation	Moisture uptake (%) at 90% RH
RXB	0.155
ASD-S100	4.135
ASD-L100	4.546
ASD-SLPS	14.17

Table SV. D values of PSD analysis of RXB

D value	Particle size (µm)
d (0.1)	3.8
d (0.5)	5.6
d (0.9)	8

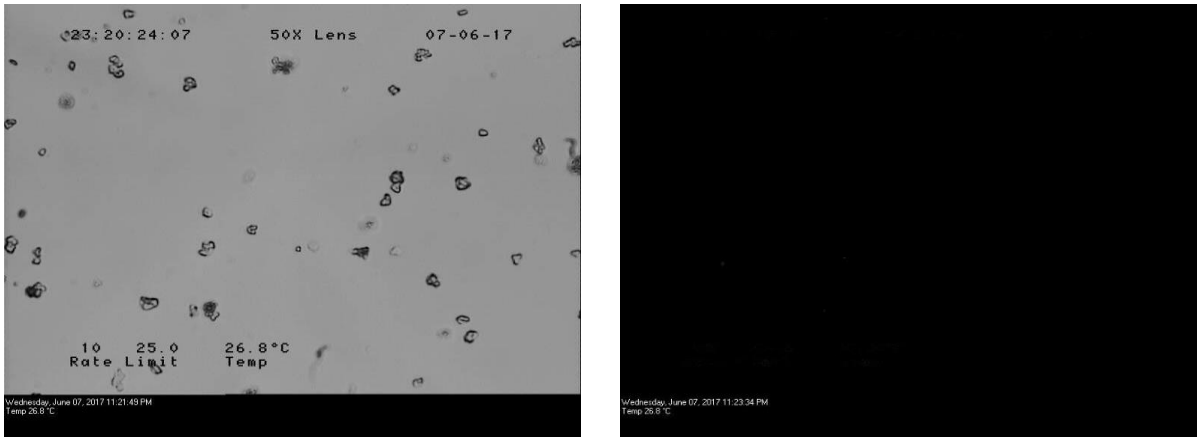
(a) **(b)**

(a) Optical and (b) Polarized microscopy image of RXB showing birefringence



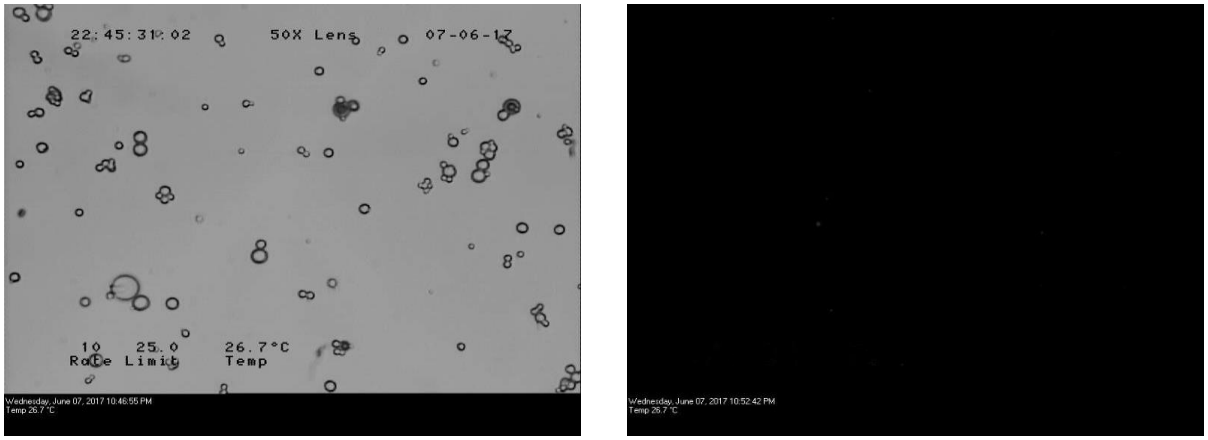
(c) **(d)**

(c) Optical and (d) polarized microscopy images of spray dried sample of ASD-S100



(e) **(f)**

(e) Optical and (f) polarized microscopy images of spray dried sample of ASD-L100



(g) **(h)**

(g) Optical and (h) polarized microscopy images of spray dried sample of ASD-SLPS

Figure S1. Optical and microscopy images of crystalline RXB and prepared ASDs

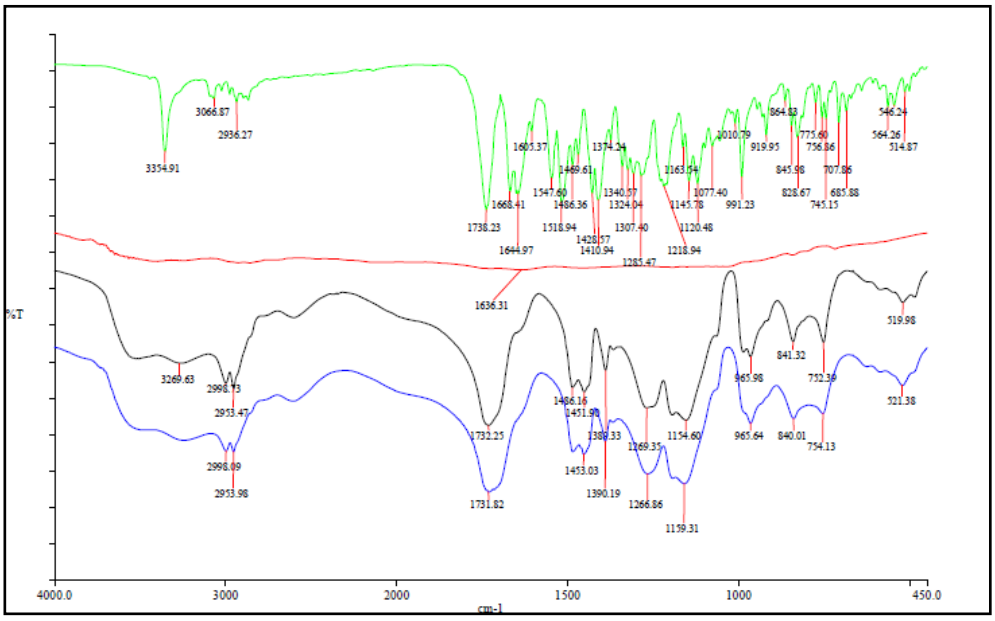


Figure S 2. FTIR overlay of rivaroxaban and polymers

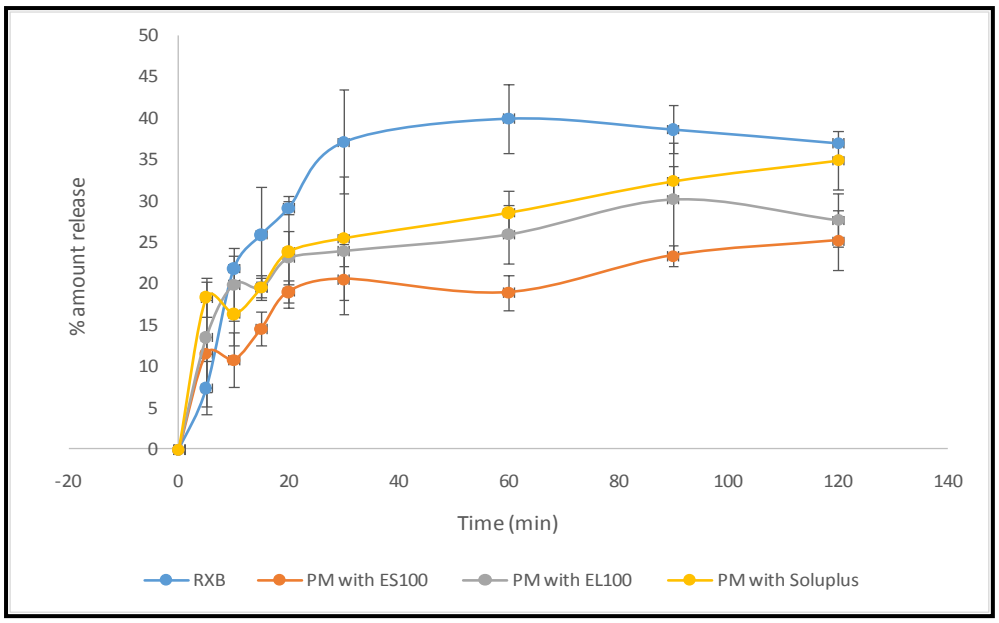


Figure S3. Dissolution of Rivaroxaban and its physical mixtures with eudragit S100, eudragit L100 and soluplus

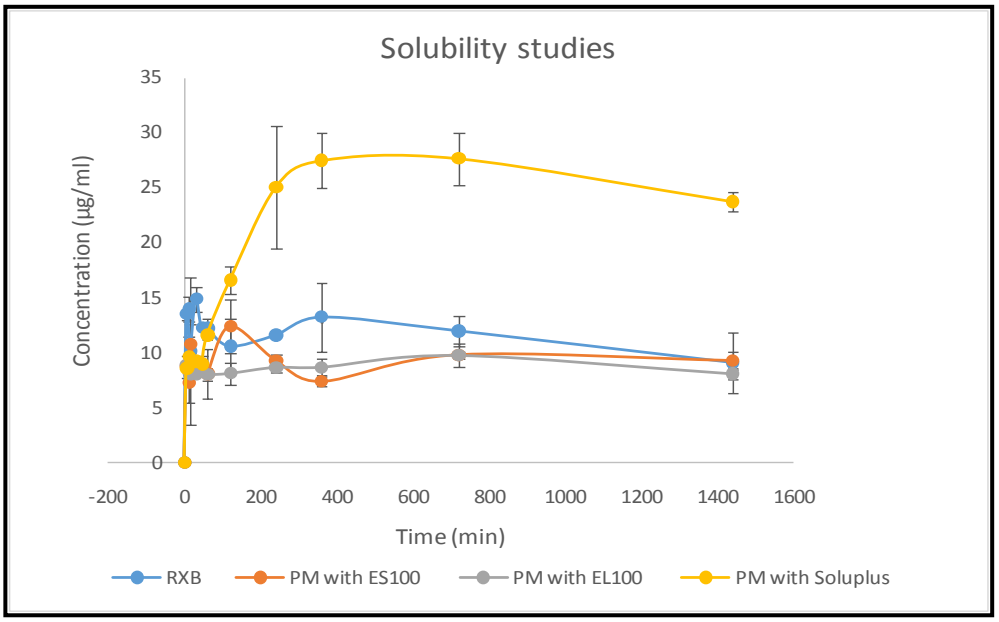


Figure S4. Solubility data of RXB and its physical mixtures with eudragit S100, eudragit L100 and soluplus