

Figure S11. a) Diclofenac transmembrane transport rate across silicone membrane using the supersaturated calibration solutions (SS) at varying degrees of saturation: 1 (\diamond), 2 (\blacklozenge), 3 (\blacktriangle), 4 (\blacksquare) and 5 (\triangle). b) The relationship between the degree of increase in the steady-state transport rate and the theoretical degrees of saturation the application vehicle using the SS. ($n = 5 \pm \text{SD}$)

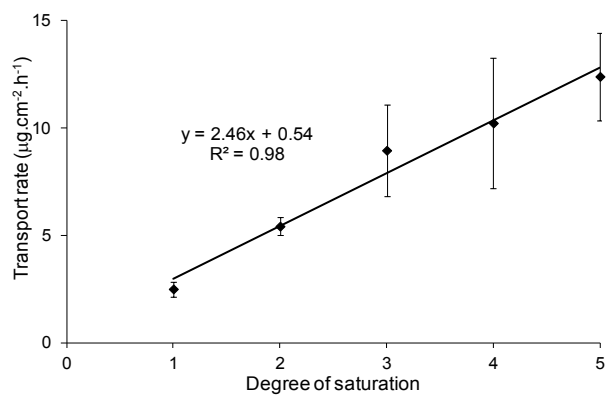


Figure SI2. Diclofenac transport calibration curve using a silicone membrane ($n = 5 \pm \text{SD}$).

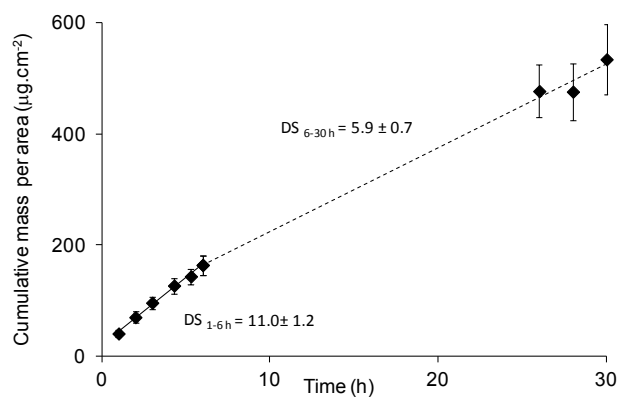


Figure SI3. Diclofenac transmembrane transport rate when the drug was presented as the *in situ* assembled soft microparticles (InDicP) over 30 h time period indicating the change in the degree of drug saturation ($n = 5 \pm \text{SD}$).

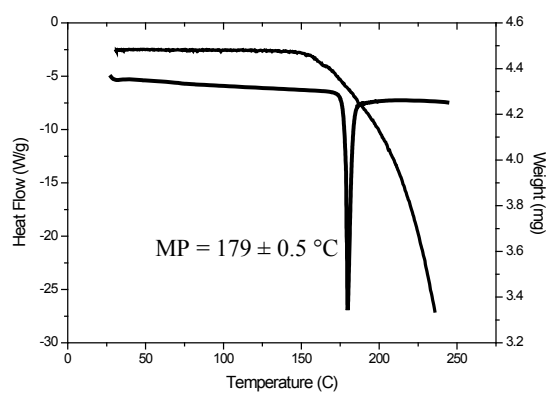


Figure SI4. Differential scanning calorimetry and thermogravimetric scans of diclofenac acid indicating the melting point (MP).

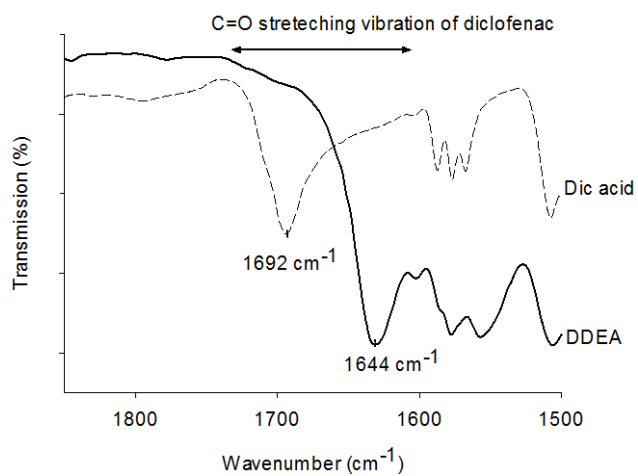


Figure SI5. The Fourier transform infrared spectra of the diclofenac acid (dotted line) and diclofenac diethylamine salt (continuous line) in the carbonyl stretching region (1800-1400 cm⁻¹).