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S1: Separation and characterization of Curcumin (CUR)

1HNMR: (d-DMSO): δ 3.82 (s, 6H, O–CH3), 6.05 (s, 1H, –CO–CH=COH–), 6.75 (d, J 15.87 Hz, 2H, Ph-CH=CH–CO–, Ph-CH=CH–COH–), 6.81 (d, J 7.93 Hz, 2H,Ph–H3, Ph–H30), 7.14 (dd, J 1.53 and 8.24 Hz,2H, Ph–H2, Ph–H20), 7.31 (d, J 1.53 Hz, 2H, Ph–H1,Ph–H10), 7.53 (d, J 15.87 Hz, 2H, Ph–CH=CH–), 9.67(br, 1H, exchangeable with D2O, Ph–COHyCH).TLC: stationary phase-silica gelGF254, mobile phase dichloromethane/methanol (97:3): Rf ofcurcumin = 0.70, Rf of demethoxycurcumin = 0.63 and Rf of bisdemethoxycurcumin = 0.52.

S2: Synthesis and characterization of Diacetylcurcumin (DAC)

Curcumin (0.368 g, 1 mmol) was dissolved in (molecular sieve) dried pyridine (2 ml). Aceticanhydride (0.48 ml) was then added dropwise to this solution and the reaction mixture was stirred for 2 h at room temperature. Saturated sodium bicarbonate solution was added to the reaction mixture to neutralize excess acetic anhydride. The mixture was extracted with ethyl acetate (3 × 30 ml). The combined ethyl acetate layer was dried over anhydrous sodium sulfate and evaporated under reduced pressure. The resulting solid was collected and recrystallised with ethyl acetate/hexane to give diacetylcurcumin 420mg (92.92% yield), mp = 166– 167°C. IR (KBr) (cm^{-1}): 3460 (O–H), 3039 (alkene C–H), 2940 (alkane C–H), 1762 (C=O ester), 1637 (C=O ketone), 1604-1512 (C=C), 1452 ($–CH_3$), 1189- 1123 (C–O). ^{1}H NMR (d-DMSO): δ 2.27 (s, 6H, Ph–O–CO–CH_3), 3.85 (s, 6H, Ph–O–CH_3), 6.20 (s, 1H, –COH=CH–CO–), 7.003 (d, J 15.89 Hz, 1H, Ph–CH=CH–COH–), 7.16 (d, J 8.07 Hz, 2H, Ph-H6), 7.33 (dd, J 1.23 and 8.24 Hz, 2H, Ph–H5), 7.52 (d, J 1.20 Hz, 2H, Ph-H3), 7.65 (d, J 16.09 Hz, 2H, Ph–CH=CH–COH–).^{13}C NMR (d-DMSO): δ 20.57 (2C), 56.08 (2C), 81.81 (1C), 112.15 (2C), 121.60 (2C), 123.50 (2C), 124.72 (2C), 133.83 (2C), 140.03 (2C), 141.03 (2C), 151.33 (2C), 168.60 (1C), 183.37 (1C), 183.98 (2C).