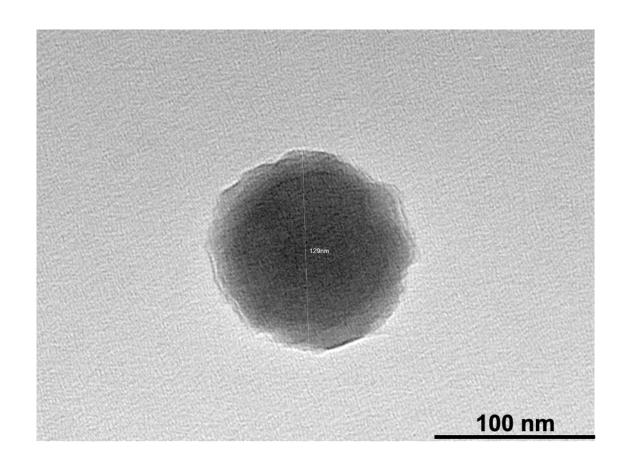
Electronic Supplementary Material (ESI) for Biomaterials Science. This journal is © The Royal Society of Chemistry 2022 Suppl. Fig. 1 (Chemical Structure of polymerization reaction)

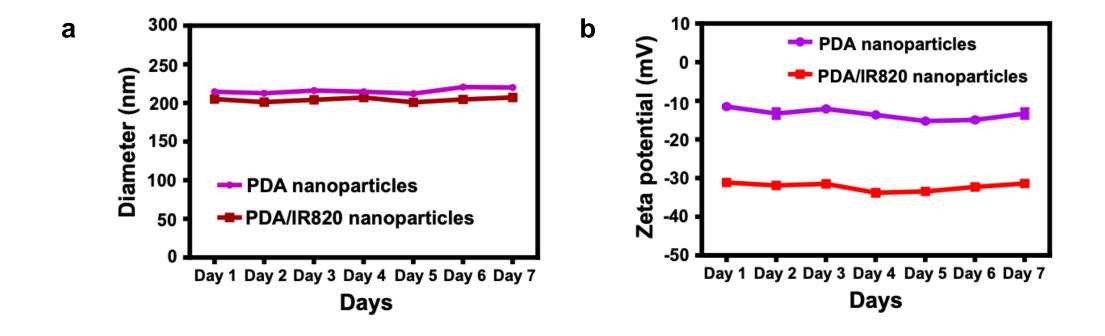
Dopamine hydrochloride

Polydopamine

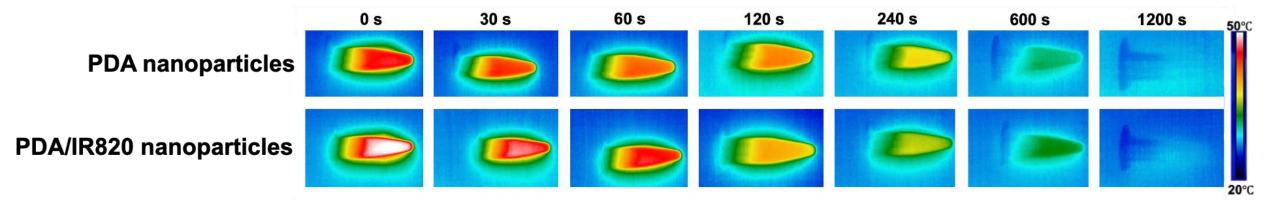
Suppl. Fig 2 (TEM image, PDA/IR820)

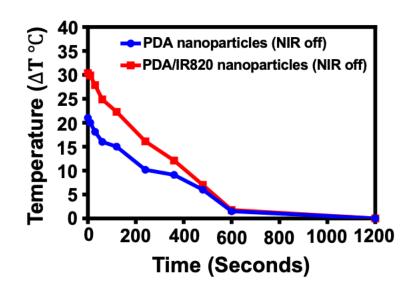


Suppl. Fig 3 (The determination of size and zeta potential of the nanoparticles at room temperature for 7 days)

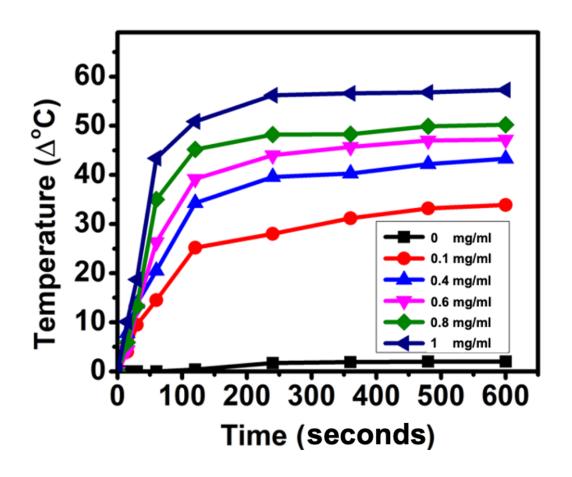


Suppl. Fig 4 (The reduction of temperature after the NIR off)

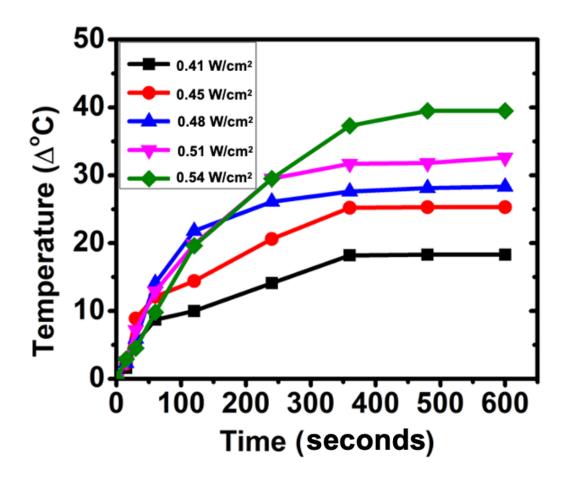




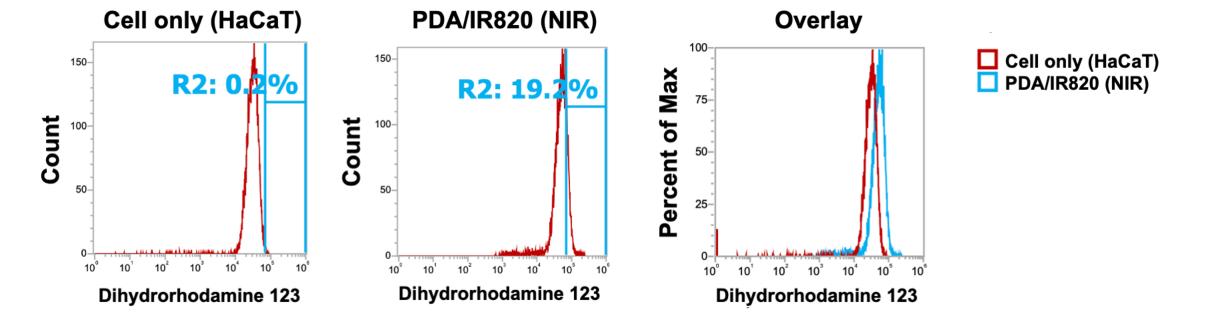
Suppl. Fig 5 (Temperature increase with respect to concentration)



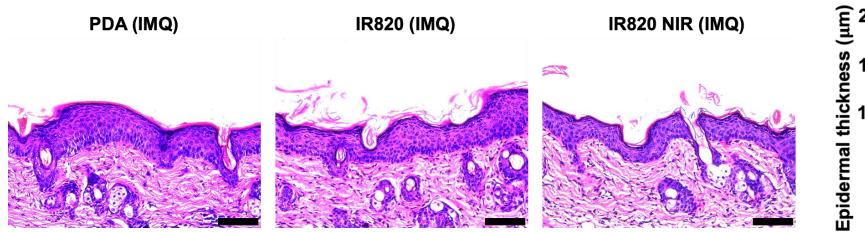
Suppl. Fig 6 (Temperature increase with respect to power)

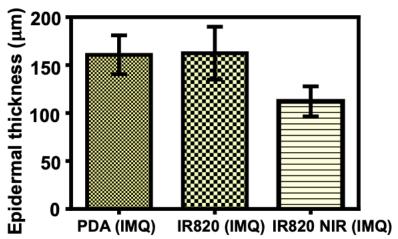


Suppl. Fig 7 (In vitro photodynamic study, Flow cytometry)

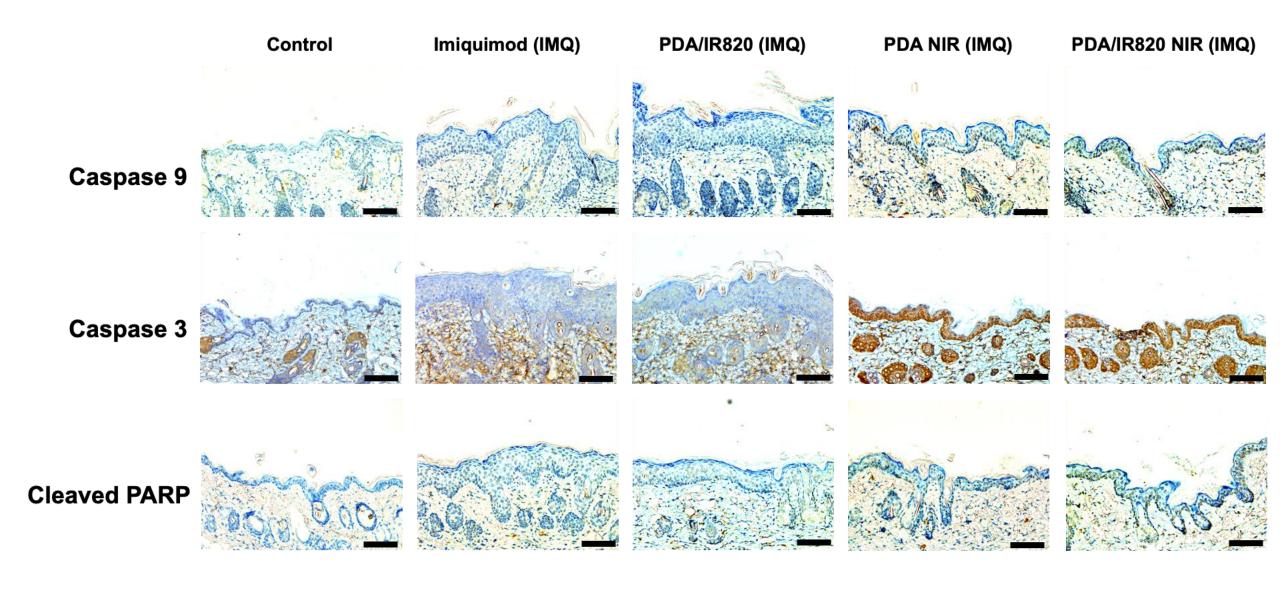


Suppl. Fig 8 (The H&E- stained psoriasiform skin section treated with PDA or IR820 alone with or without NIR)

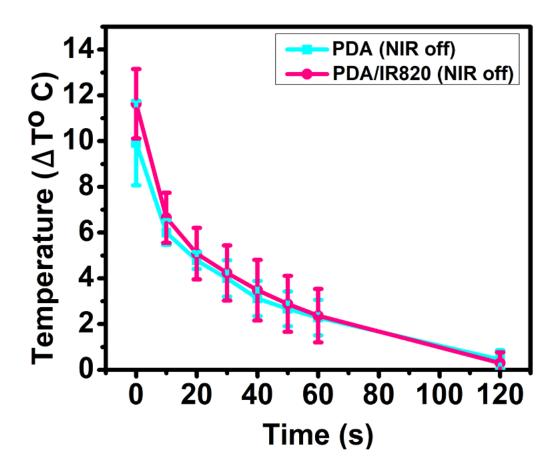




Suppl. Fig 9 (The immunohistochemistry of the mouse skin stained with caspase 9, caspase 3, or PARP antibody)



Suppl. Fig 10 (In vivo NIR off)



Suppl. Fig 11 (In Control NIR only PDA/IR820 PDA/IR820 NIR vivo skin irritation^a test) b d C PDA/IR820
NIR only
PDA/IR820 NIR PDA/IR820
NIR only
PDA/IR820 NIR PDA/IR820
NIR only
PDA/IR820 NIR ΔΤΕWL (g/m²/h) ΔErythema (a*) Day 1 Day 2 Day 3 Day 4 Day 5 Day 6 Days Day 1 Day 2 Day 3 Day 4 Day 5 Day 6 Days Day 1 Day 2 Day 3 Day 4 Day 5 Day 6 Days IR820 NIR Control NIR only PDA/IR820 PDA/IR820 NIR **PDA NIR** g