List of schemes

**Scheme 3.1** Schematic illustration of grafting of glycolic acid on chitosan, formation of CS-g-glycolic acid and gold nanoflower nanohybrid scaffold and interaction between chitosan-g-glycolic acid, drug and Au nanoflowers

**Scheme 4.1** Synthesis of Au/Fe$_3$O$_4$ hybrid nanoparticles

**Scheme 4.2** Schematic illustration of grafting of glycolic acid on chitosan, formation of Chitosan-g-glycolic acid-Au-Fe$_3$O$_4$ hybrid nanoparticles based nanohybrid scaffold and interaction between chitosan-g-glycolic acid, drug and Au nanoflowers

**Scheme 5.1** Schematic illustration of interactions between chitosan-g-glycolic acid, drug and Pt-Fe$_3$O$_4$ hybrid nanoparticles.

**Scheme 6.1** Schematic illustration of synthesis of Co$_3$O$_4$ hybrid nanoparticles.

**Scheme 6.2** Schematic illustration of interactions between chitosan-g-glycolic acid, drug and Co$_3$O$_4$ hybrid nanoparticles in nanohybrid porous scaffold.

**Scheme 6.2.1** Schematic illustration of preparation of Co$_3$O$_4$ nanoparticles and its interactions with chitosan-g-glycolic acid

**Scheme 7.1** Schematic illustration of synthesis of Co$_3$O$_4$/Fe$_3$O$_4$ hybrid nanoparticles.

**Scheme 7.2** Grafting of glycolic acid on chitosan, formation of Chitosan-g-glycolic acid and Co$_3$O$_4$-Fe$_3$O$_4$ hybrid nanoparticles based nanohybrid scaffold and interaction between chitosan-g-glycolic acid, drug and Co$_3$O$_4$-Fe$_3$O$_4$ hybrid nanoparticles.

**Scheme 7.2.1** Schematic illustration of synthesis of Co$_3$O$_4$/Fe$_3$O$_4$ hybrid nanoparticles.