Table 1 : Mechanism of SPR and schottky barrier of recent studies

Metal/ Semiconductor	**Light source**	**Mechanism**
[8](Pd, Ru, Co, Ni, Fe, Cr)/Bi_2O_3	visible	Schottky barrier, leading to an effective charge separation because of the enhanced internal electric field, metal ions behave as microcathodes
[17]Pt–TiO_2, Au–TiO_2, Pd–TiO_2	UV, λ ~254 nm	Schottky barrier, charge transfer from semiconductor to metal
[64]Cu(I)/TiO_{2-x}	Infrared	Schottky barrier, Electron supply and partial regeneration of surface oxygen vacancy induced by irradiation
[39](Rh, Pt, Ru, Ir, Au, Cu or Ni)/TiO_2	UV, λ ~254 nm	Schottky barrier, an efficient electron trap preventing photogenerated electron-hole recombination, which enhances the efficiency of photocatalytic reaction
[63]CdS-Au-TiO_2 Sandwich Structure	Solar spectrum, visible , λ:525−725 nm	Plasmonic hot electron transfer and back transfer
[61]Au NR/TiO_2	Visible, λ:508- 610 nm	Schottky junction is established at the interface between the Au NRs and TiO2 resulting in charge transfer from the TiO2 to the Au NRs, Illuminating the AuNRs with visible light excited surface plasmons that rapidly decay, producing many hot electrons
[62]AuNRs/TiO_2	Near-infrared, λ:1000 nm	Plasmon-induced charge excitation, multiple electron holes generated
[33](CdS@SiO_2//Au@SiO_2	Visible, λ> 350 nm	Localized surface plasmon resonance, locally enhanced electricfield enhance the photoexcitation
[59]Au/CeO_2	Visible, λ>400nm	Surface plasmon resonance
[38]Au particles on FTO/WO_3/$BiVO_4$	Visible, λ:560 nm	Photoinduced charge separation in a photocatalytic system, without undergoing a plasmon resonance effect
[30]Au/TiO_2	near-UV, 300< λ> 400 nm	Employs the enhanced electric field amplitude on the surface of Ag NPs in the spectral vicinity of their plasmon resonances
[60]Au-ZnO photoelectrode	Visible, λ:530 nm	Localized plasmon-induced effects and charge separation in photoelectrochemical processes, coupling of hot electrons that are formed by plasmons and the electromagnetic field can effectively increase the probability of a photochemical reaction