Supplementary Information for:

CdS:Co Diluted Magnetic Semiconductor Nanocrystals: Synthesis and ferromagnetism Study

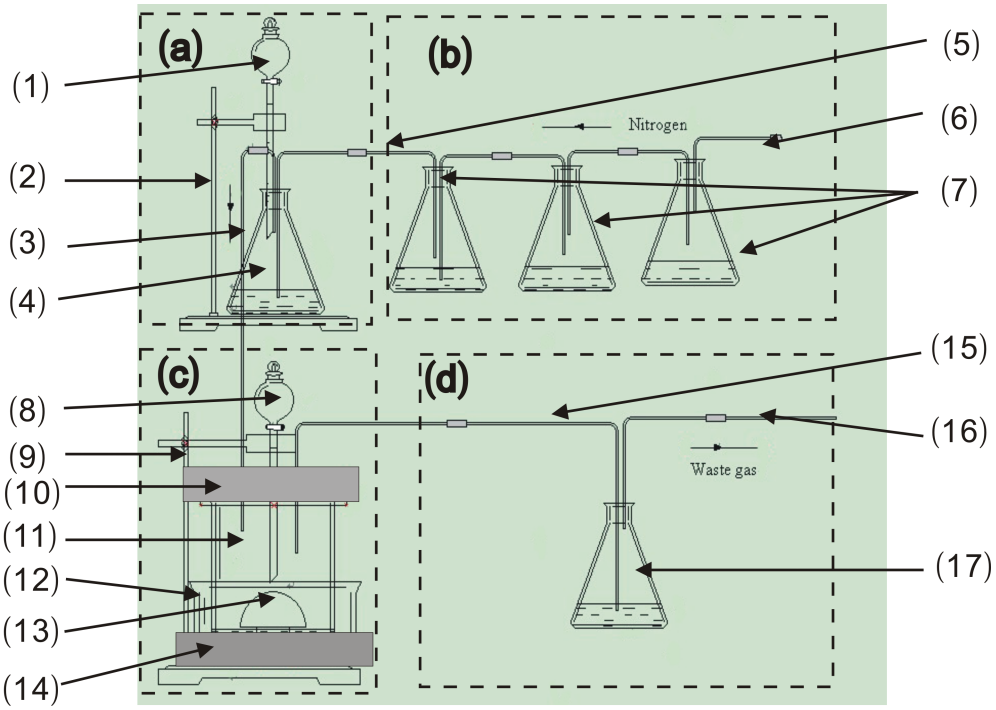

Figure S. The whole experiment includes four sections:

(a) Preparing H_2S gas:

(1) separatory funnel: filled with HCL; (2) prop stand with clip; (3) catheter; (4) flask: filled with Na_2S

(b) Three-stage voltage divider used for leading in nitrogen:

(5) (6) catheter; (7) flask: filled with H_2O

(c) Gas liquid reaction:

(8) separatory funnel: filled with reactant (Cd $(COOCH3)_2$, Co $(COOCH3)_2$, PVP, deionized water); (9) prop stand with clip; (10) hermetic lid; (11) catalyst case; (12) thermostat; (13) frosting spherical crown; (14) supersonic instrument

(d) Collecting exhaust gases:

(15) (16) catheter; (17) flask: filled with NaOH

The reaction process as followed:

HCL drips from （1） into （4） reacting with Na_2S to prepare H_2S gas. Nitrogen passes through three-stage voltage divider into (4) then carrys the H_2S flow into (11) through (3). When H_2S flows into (11), the reactant solution drops into (11) evenly and overspreads (13). Then H_2S and reactant reaction takes place. With the reaction carrying on, the products dripping from （13）. Avoid the nanocrystals reuniteing, the whole core part of the reaction was put in （14）. The waste gas through （15） flowes into（17） then be exhaled.