

injecting a first mixture of trioctylphosphine (TOP):Se solution, TMS_2S , diphenylphosphine (DPP) and ODE into the heated solution, thereby forming a second mixture in the container;

adding ODE to the second mixture in the container;

growing the nanocrystals in the second mixture in a reaction in the container; and

quenching the reaction, thereby resulting in precipitated nanocrystals in the container.

8. The method of claim 7 wherein heating comprises heating the solution at approximately 150°C .

9. The method of claim 8 wherein the heating comprises heating the solution for approximately 1 hour.

10. The method of claim 7 wherein the growing comprises growing the nanocrystals at approximately 150°C .

11. The method of claim 10 wherein the growing comprises growing the nanocrystals for approximately 90 seconds.

12. The method of claim 7 wherein the quenching comprises:

placing the container in a room-temperature water bath; and

introducing anhydrous hexane into the container, thereby resulting in the precipitated nanocrystals.

13. The method of claim 7 further comprising purifying the precipitated nanocrystals.

14. The method of claim 13 wherein the purifying comprises:

twice precipitating the nanocrystals in hexane/ethanol; and once precipitating the nanocrystals in hexane/acetone.

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