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Seeing the electroporative uptake of cell-membrane impermeable fluorescent molecules and nanoparticles

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Synthesis of fluorescent nanoparticles

Step 1: To prepare a water-in-oil microemulsion by mixing and stirring 1.77 mL of Triton X-100 1.8 mL of n-hexanol 7.5 mL of cyclohexane

Step 2: To add 480 µL of aqueous dye solution to the water-in-oil microemulsion.

Step 3: To add 100 µL of TEOS (stirring for 30 min)

Step 4: To add 60 µL of NH4OH (25-28 wt% in water)

Step 5: To continue stirring for 24 hrs at room temperature

Step 6: To stop the reaction by adding 20 mL of acetone and sonicate to break the microemulsion.

Step 7: To centrifuge and separate nanoparticles.

Step 8: To wash nanoparticles with ethanol for 2-3 times (sonication and centrifugation), and with acetone.

Step 9: To dry the nanoparticles in a desiccator.

Step 10: To redisperse the nanoparticles in water-in-oil microemulsion for post silica coating, then repeat the Steps (1, 3-8) excluding the Step 2.