

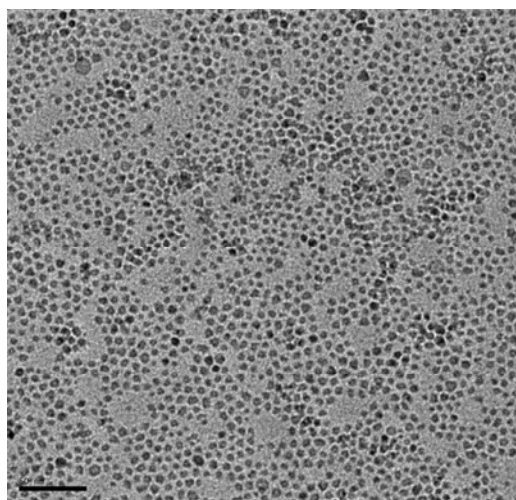
## Technical Specification of Iron Oxide Nanocrystals with Positively Charged PEI Surface

**Description:** SEI is a group of water soluble iron oxide nanocrystals with polyethylenimine (PEI) coating. The zeta potential of SEI is about +50 mV. The total thickness of the organic layers is about 10 nm. The hydrodynamic size of the nanocrystals is about 20 nm larger than their inorganic core size measured by TEM.

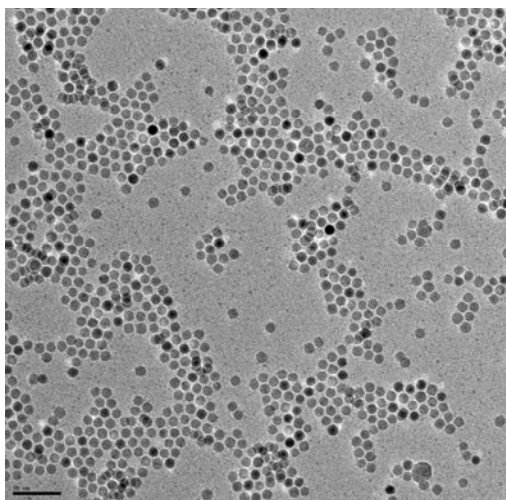
<b>Catalog number:</b>	SEI
<b>Product name:</b>	Iron oxide nanocrystals in water with positively charged PEI surface.
<b>Solvent:</b>	Water
<b>Storage:</b>	4°C; Do not freeze.
<b>pH stability:</b>	2-14
<b>Buffer stability:</b>	None
<b>Shelf life:</b>	6 months
<b>Concentration:</b>	1 mg/mL (Fe)

<b>IO size (nm):</b>	10	15	20	25	30
<b>Size tolerance (nm):</b>	2.5	2.5	2.5	2.5	2.5
<b>Size distribution:</b>	<5%	<5%	<5%	<5%	<5%
<b>Molar concentration (uM) of 1 mg/mL (Fe):</b>	0.86	0.25	0.11	0.054	0.031
<b>Structure:</b>	Maghemite	Magnetite			
<b>Chemical Formula:</b>	Fe <sub>2</sub> O <sub>3</sub>	Fe <sub>3</sub> O <sub>4</sub>			

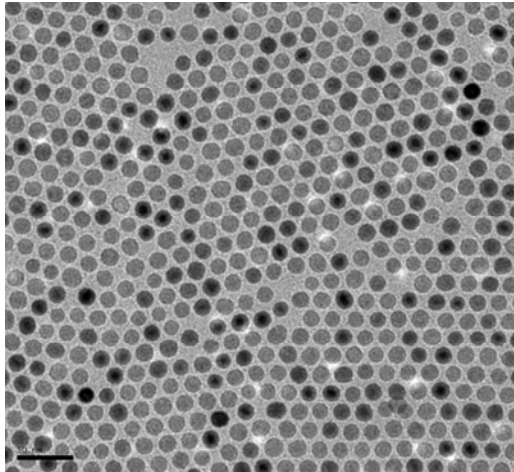
TEM image of 5 nm IO nanocrystals



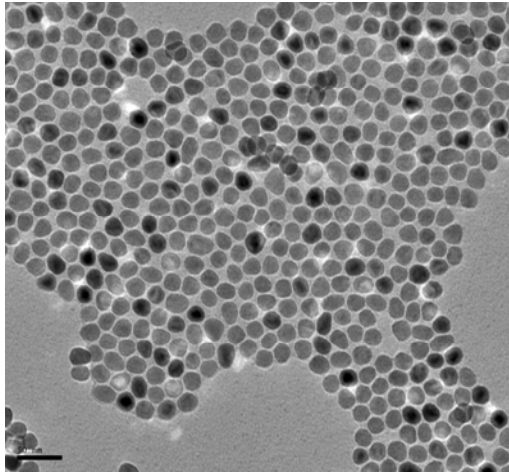
TEM image of 10 nm IO nanocrystals



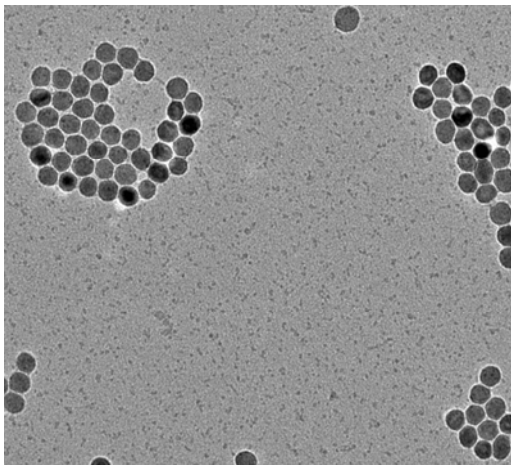
**TEM image of 15 nm IO nanocrystals**



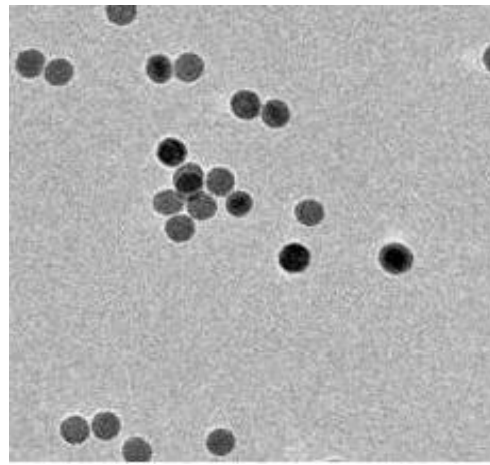
**TEM image of 20 nm IO nanocrystals**



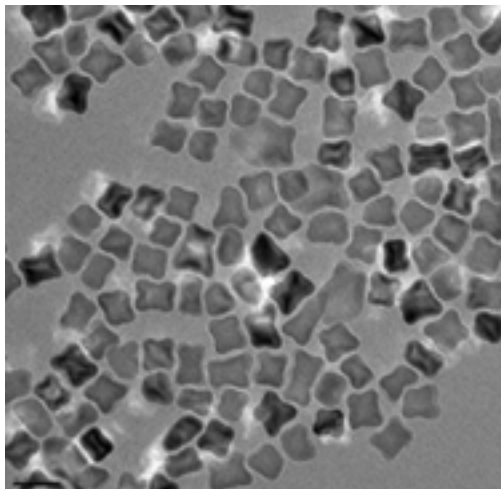
**TEM image of 25 nm IO nanocrystals**



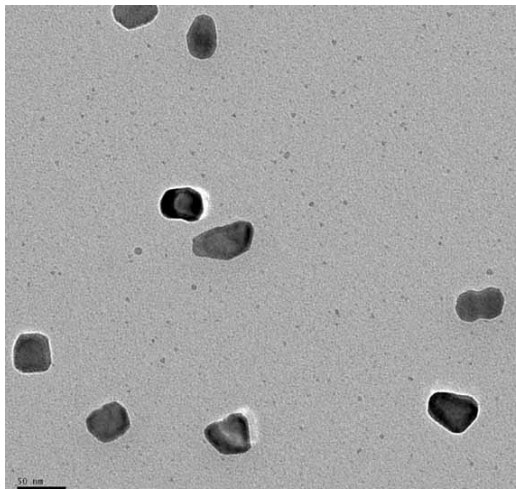
**TEM image of 30 nm IO nanocrystals**



**TEM image of 40nm IO nanocrystals**



**TEM image of 50nm IO nanocrystals**





**For R&D only. Not intended for food, drug, household, agricultural, or cosmetic use.**

**Ocean NanoTech, LLC shall not be held liable for any damage resulting from handling or contact with the above product.**