

Technical Data Sheet

FlexiNanoMag-2

Iron oxide(II,III), magnetic nanoparticles (5~7 nm, -COOH, -NH₂ functional)

Properties

Form : Aqueous suspension

Full Name : Iron oxide(II,III), magnetic nanoparticles
dual (carboxy & amino) functional

CAS Number: 1317-61-9

Preparation: Hydrothermal reduction

Particle Size : 5~7 nm

Structure : Hexagonal (2D)

Product Description

The dual functional Iron oxide(II,III) magnetic nanoparticles (MNPs) were synthesized and post-synthesis chemically modified in a three-step chemical reaction involving; (i) hydrothermal reduction, (ii) size fractionation using gradient-gravity separation, and (iii) post-synthesis modification of purified & fractionated nanocrystals. The chemical modification was carried out by ligand exchange reaction and chemical activation. These nanocrystals were made water soluble with the available free -COOH and -NH₂ functionalities for customers to use for their desired chem-/bio-conjugations & other application (1).

Application areas:

These MNPs offers water-solubility, dual surface functionality with their free -COOH and -NH₂ groups for customers to use for their desired chem-/bio-conjugations & other application (1). They are useful in magnetic separation, purification, and advanced synthesis. They find application in biomedical research (imaging & diagnostics), chemical catalysis, environmental remediations.

Storage conditions: +4°C in aqueous suspension

Packaging : 2 mg, 5 mg, 10 mg

Quality Control

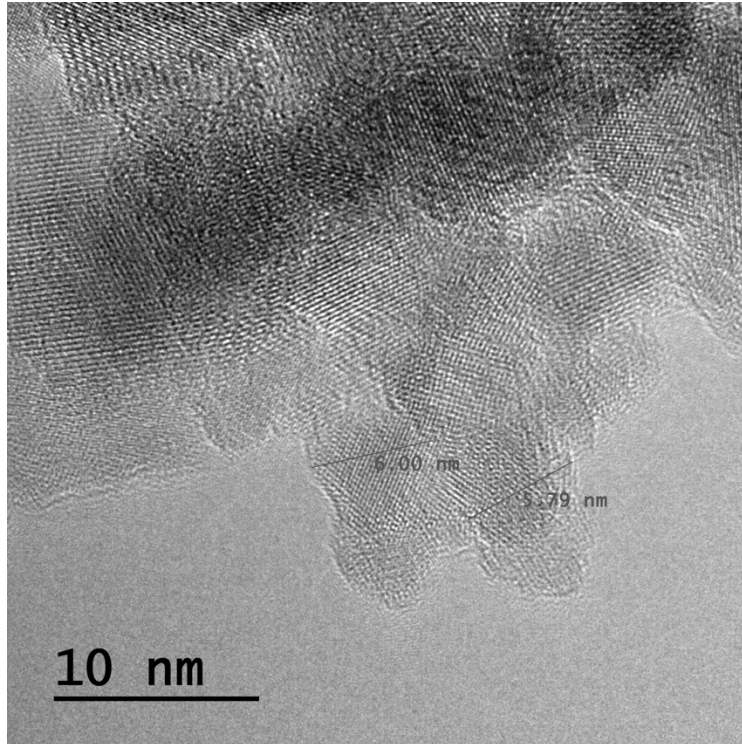


Figure 1. TEM image of magnetic iron oxide nanoparticles

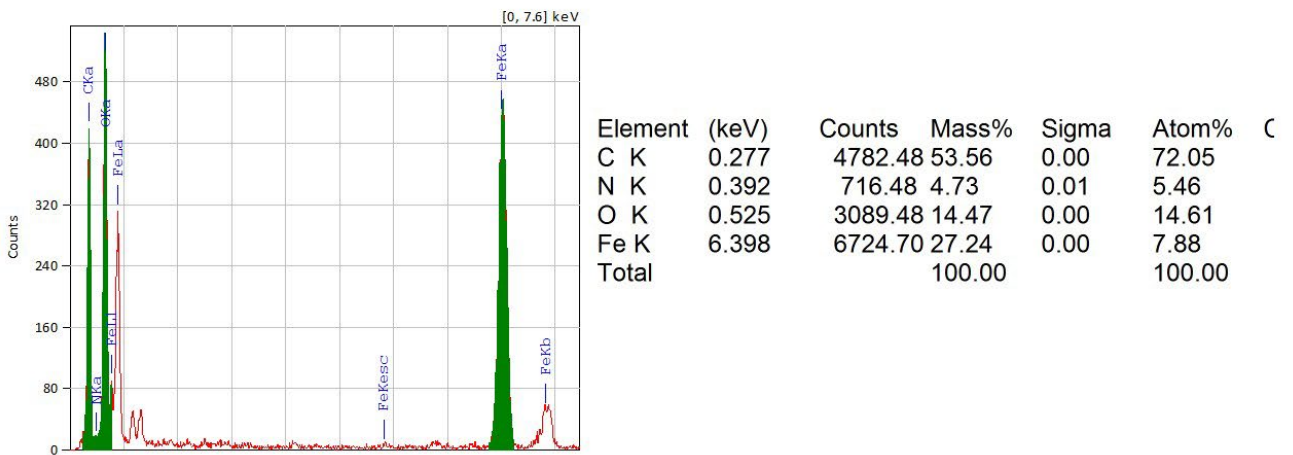
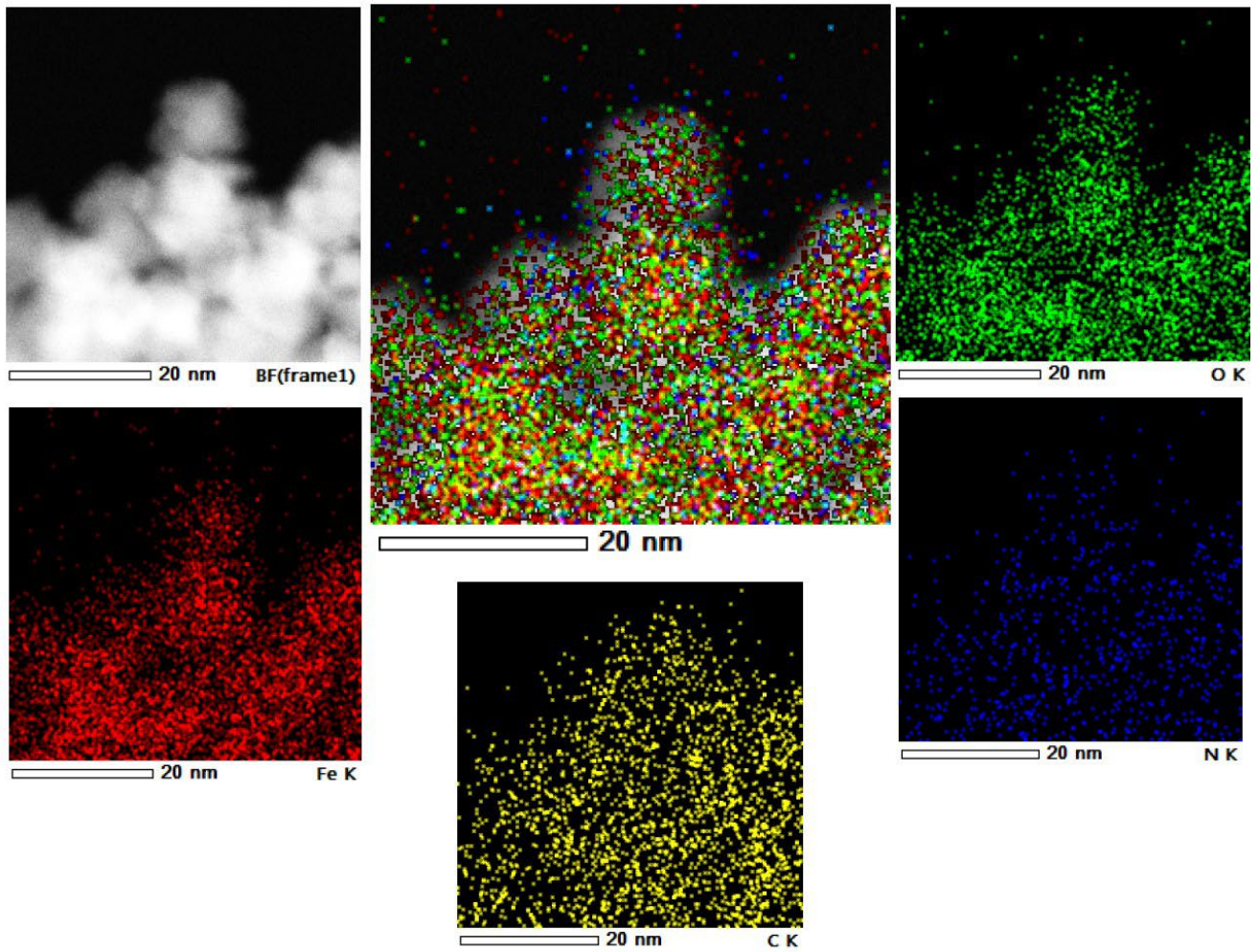


Figure 2. EDS map of magnetic iron oxide nanoparticles.

References : (1) Immuno-optomagnetic point-of-care assay and method for detection of analyte using multifunctional optomagnetic quantum dot nanocrystals (MQDs) JHNK Mohammed, A Qureshi - US Patent 11,598,777, 2023