Cite this as: Denis KUZNETSOV, Sergey DEZHUROV, Dmitri KRYLSKY, Valery NOVIKOV, Valery NESCHISLIAEV, Anastasiia KUZNETSOVA. Use of folic acid nanosensors with excellent photostability for hybrid imaging[J]. Journal of Zhejiang University Science B, 2022, 23(9): 784-790.
https://doi.org/10.1631/jzus.B2200107

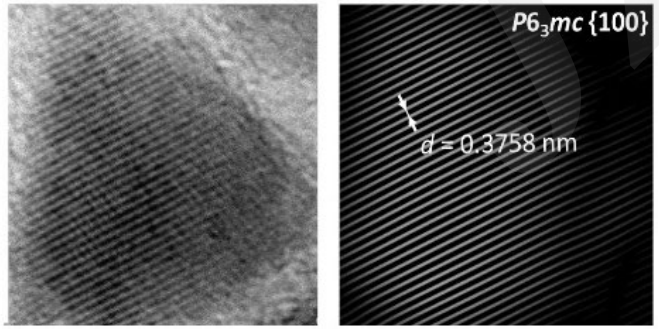
Use of folic acid nanosensors with excellent photostability for hybrid imaging

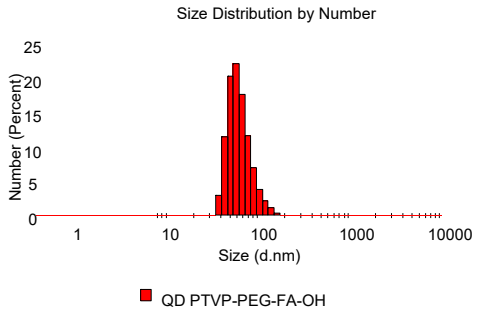
Key words: Stomach cancer, Hybrid imaging, Nanosensors, Photostability, Folic acid

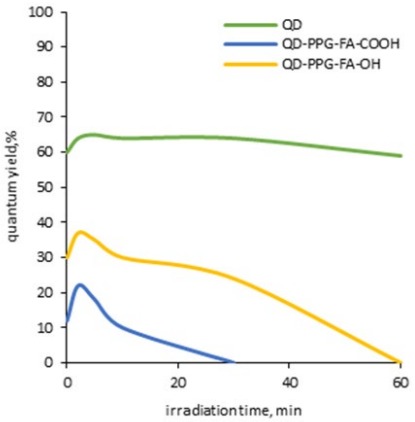
Research Summary

This article focuses on the synthesis of nanosensors that can be used with autofluorescence imaging endoscopes, and briefly outlines the key characteristics that enable their application:

- **dense crystalline structure of wurtzite nuclei**
- **small hydrodynamic size, about 50 nm**
- **high quantum yield of conjugates with folic acid**
- **high photostability of conjugates**
- **compatible with common endoscopes**





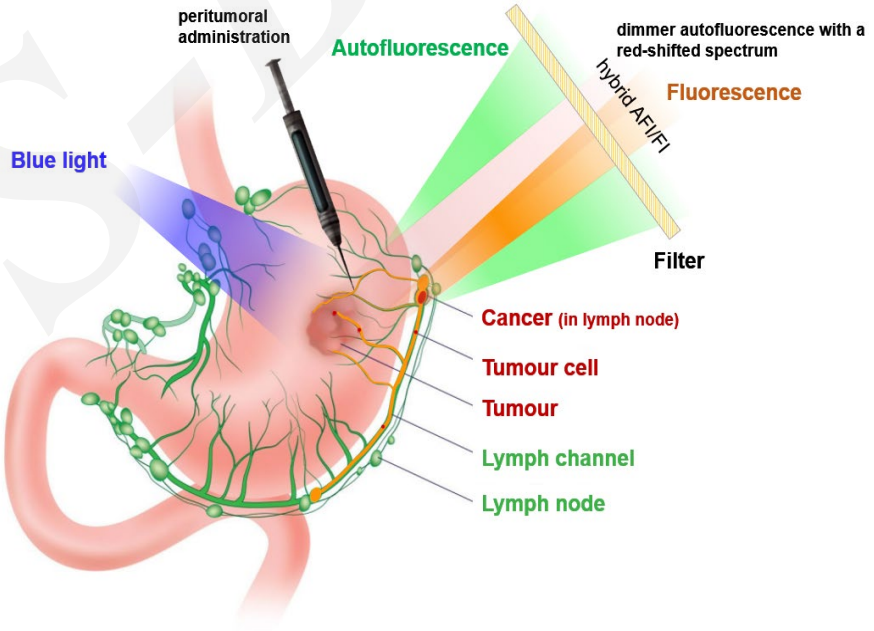


Innovation points

- **Introduction** of various methods of visualization of lymph nodes. Main problems.

- **Summary** of the obtained experimental data and their discussion in the context of clinical practice.

- **Emphasis** on compatibility with standard autofluorescence diagnostic endoscopes allows for two types of diagnostic procedures during intraoperative revision.



Innovation points

Synthesis technique, electron microscopy data, quantum yield results, spectral characterization, photodegradation, flow cytometry, cytotoxicity, in vivo imaging, ex vivo optical imaging were presented to prove the concept.