

Red emissive MSA capped CdTe quantum dots for cell imaging

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Abstract

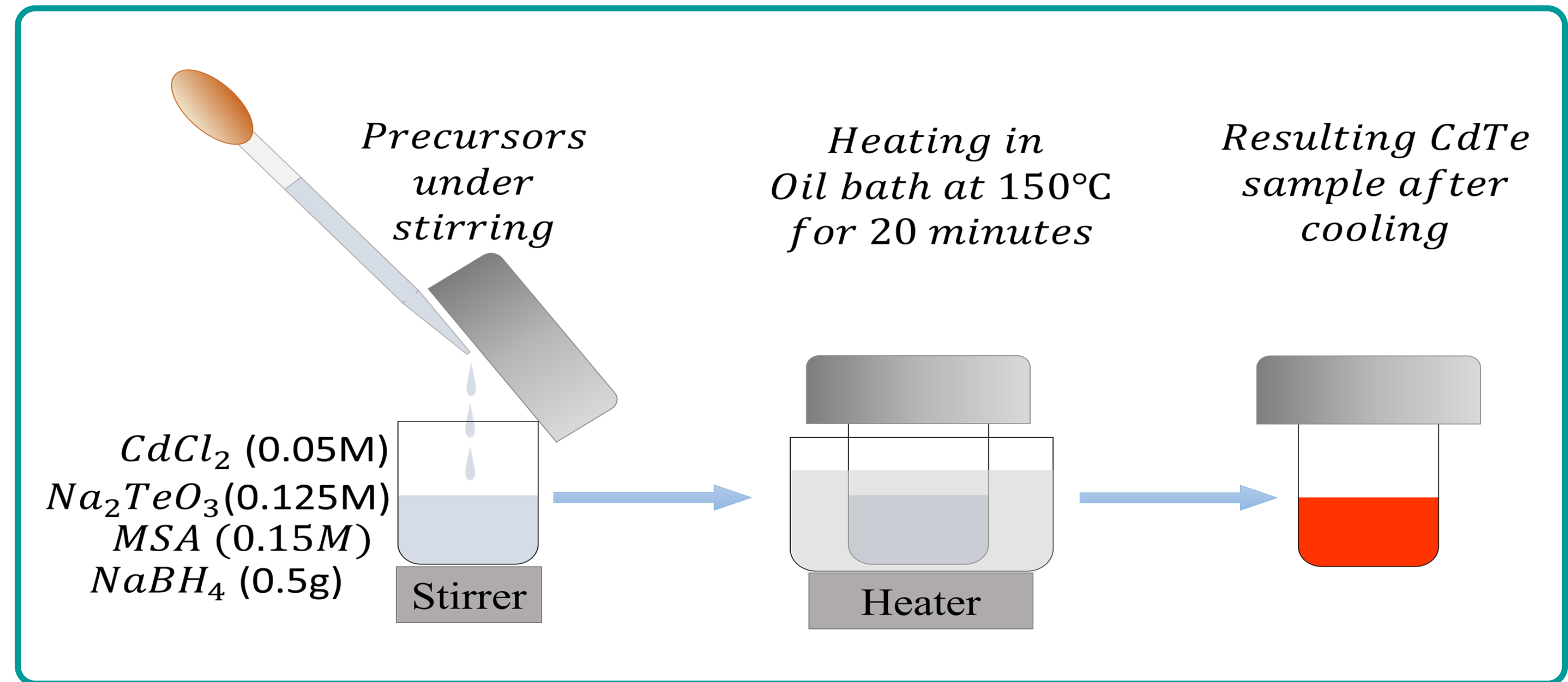
In the present work, MSA-capped CdTe QDs are prepared using a simple colloidal method for cell imaging. The XRD spectrum, UV-vis absorption spectrum, PL spectrum, and HR-TEM analysis are applied for the characterization of synthesized CdTe QDs. The bioimaging efficiency of MSA-capped CdTe QDs is examined on N2A Cells.

Introduction

Quantum Dots & Applications

Emission wavelength:	460 nm	520 nm	580 nm	620 nm	660 nm
Color	Blue	Green	Yellow	Orange	Red
Diameter:	~3 nm	4 nm	5 nm	6 nm	8 nm

Experimental Set up



Results

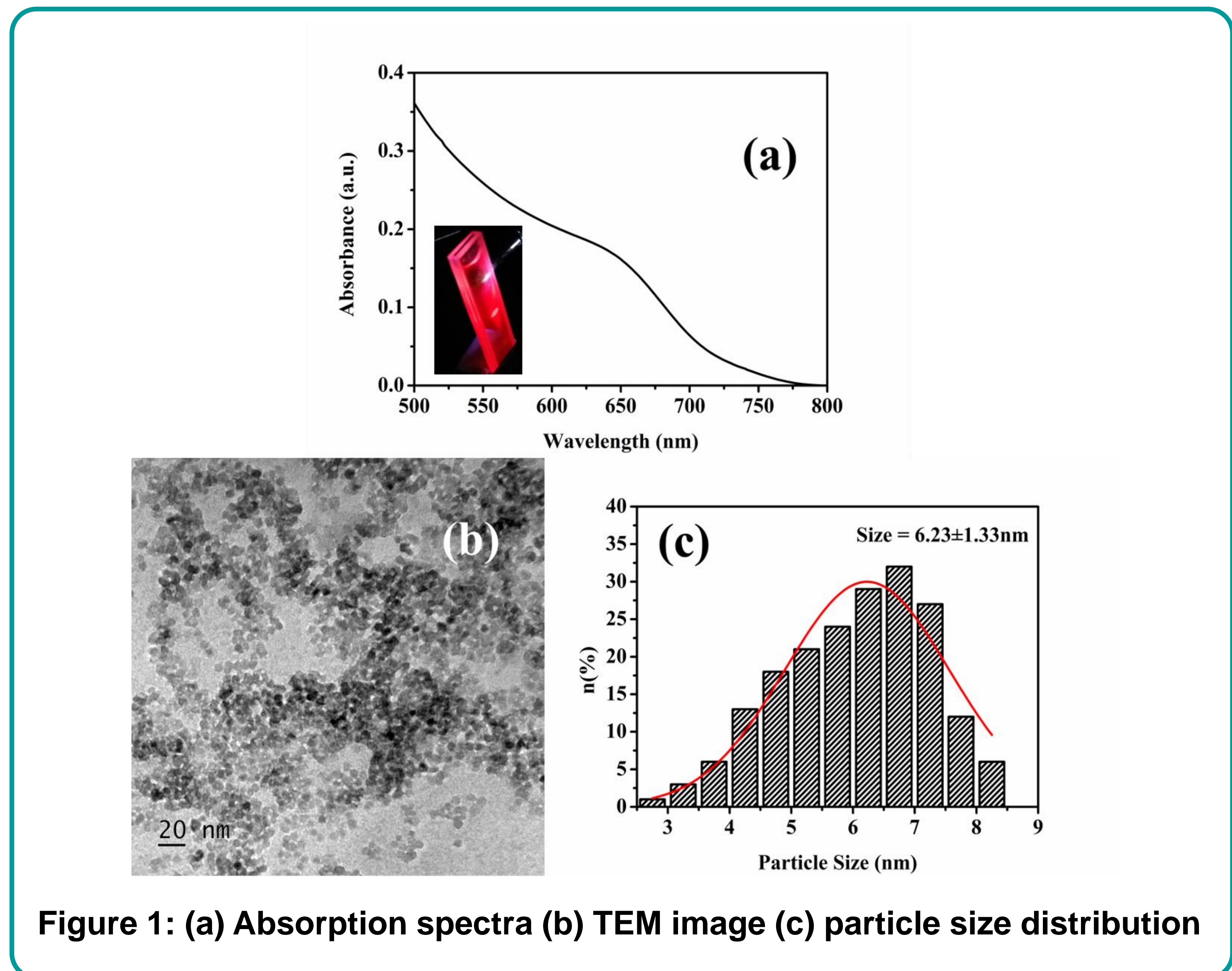


Figure 1: (a) Absorption spectra (b) TEM image (c) particle size distribution

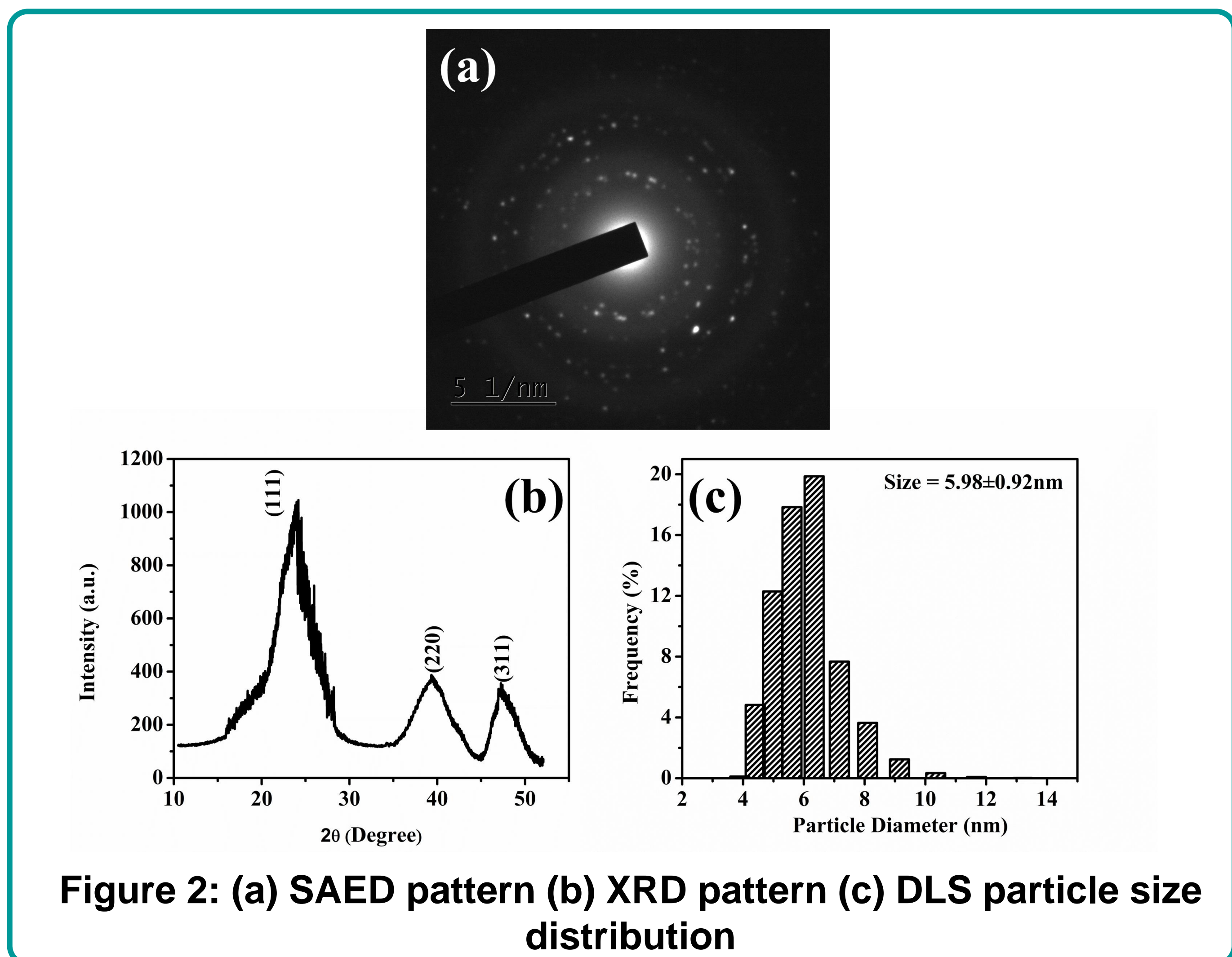


Figure 2: (a) SAED pattern (b) XRD pattern (c) DLS particle size distribution

Conclusions

- Red emissive water soluble and biocompatible CdTe QDs are synthesized by simple colloidal method.
- These QDs used for the bioimaging of N2A cells. Results show that CdTe QDs are promising material for cell imaging.

References

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3. Tianming Song, Yawei Qu, Zhe Ren, Shuang Yu, and Mingjian Sun, International Journal of Molecular Science, 21,8206,(2021).

Acknowledgement

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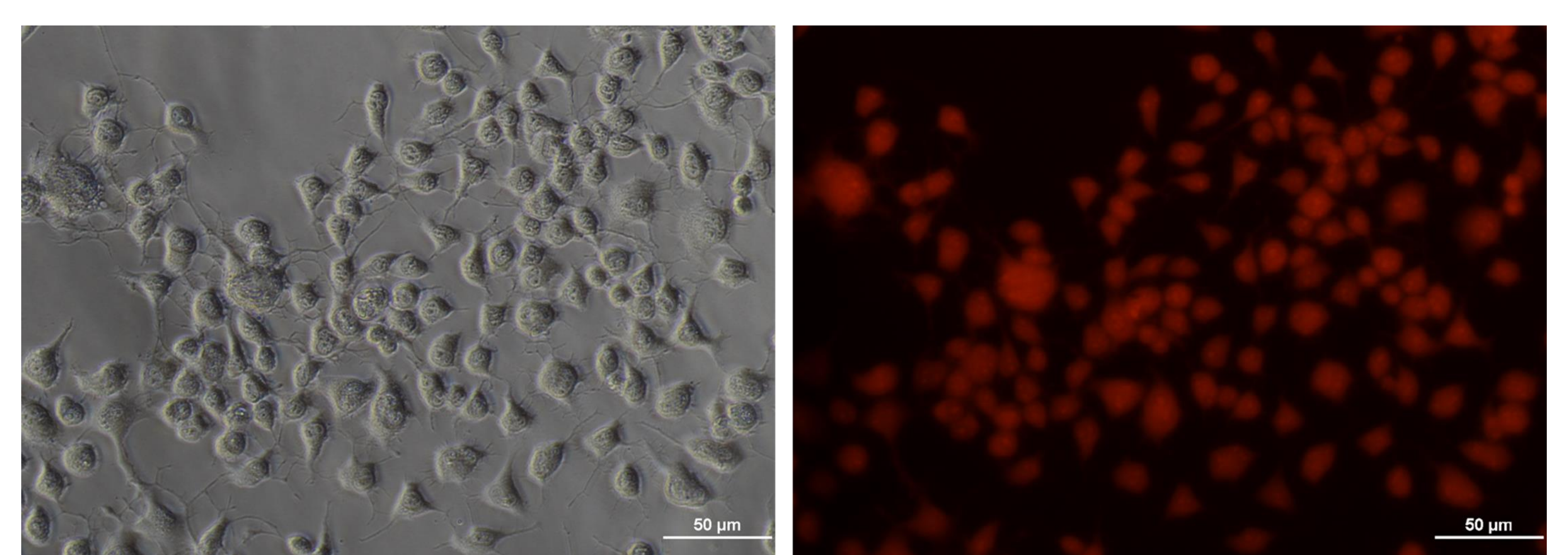


Figure 3: In vitro staining of N2A cells using red emissive CdTe QDs.