coatings

Supplementary Materials: Mid-Infrared HgTe Colloidal Quantum Dots In-Situ Passivated by Iodide

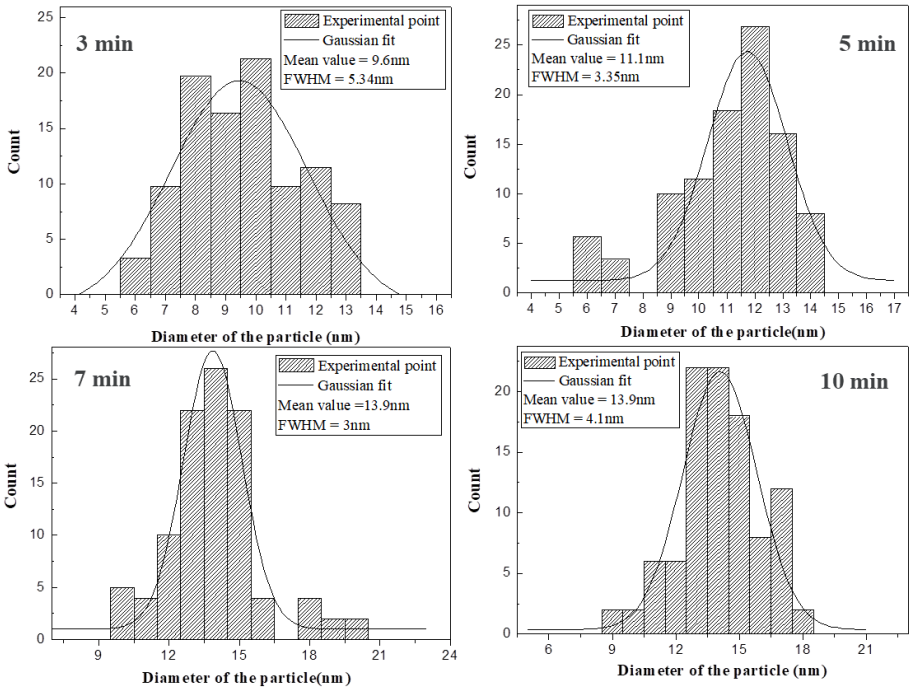
Zekang Liu [1], Peng Wang [2,*], Ran Dong [2], Wei Gong [1], Jingjie Li [1], Dichao Dai [1], Hui Yan [1] and Yongzhe Zhang [2]

[1] Faculty of Materials and Manufacturing, Key Laboratory of Advanced Functional Materials, Ministry of Education, Beijing University of Technology, Beijing 100124, China; liuzekang08@163.com (Z.L.); 18220872025@163.com (W.G.); lijj1992@emails.bjut.edu.cn (J.L.); ddcam123@163.com (D.D.); hyan@bjut.edu.cn (H.Y.)
[2] Faculty of Information Technology, Key Laboratory of Opto-Electronics Technology, Ministry of Education, Beijing University of Technology, Beijing 100124, China; dongr@emails.bjut.edu.cn (R.D.); yzzhang@bjut.edu.cn (Y.Z.)
* Correspondence: superwangpeng@bjut.edu.cn

1. Chemical Materials

Mercury iodide (Sigma-Aldrich, Saint Louis, MO, USA, ≥99.0%), bis(trimethylsilyl)telluride (Acros, Geel, Belgium, 98%), Oleylamine (Aladdin, Los Angeles, CA, USA, 80%–90%), Tetrachloroethylene (Aladdin, GR 99.5%) , n-Hexane (Aladdin, GC ≥98%) , Methanol anhydrous (AR, Tianjin, China, ≥99.5%), Ethanol absolute (AR, Tianjin, China, ≥99.7%).

2. Size Distribution Histograms and TEM Images of Grains at Different Growth Temperatures



Citation: Liu, Z.; Wang, P.; Dong, R.; Gong, W.; Li, J.; Dai, D.; Yan, H.; Zhang, Y. Mid-Infrared HgTe Colloidal Quantum Dots In-Situ Passivated by Iodide. *Coatings* **2022**, *12*, 1033. https://doi.org/10.3390/coatings12071033

Academic Editor: Anatoly Kovalev

Received: 30 May 2022
Accepted: 13 July 2022
Published: 21 July 2022

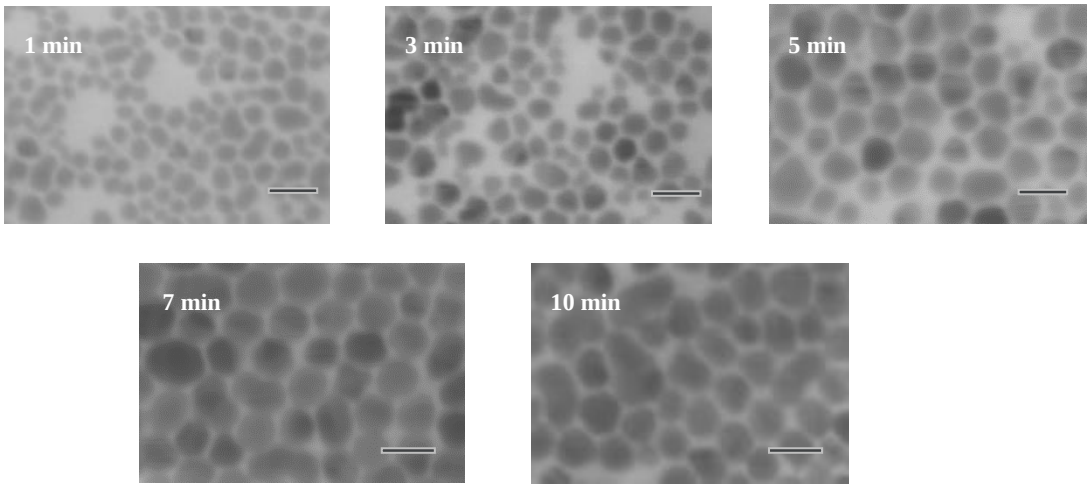


Figure S1. TEM images and histogram of as-prepared HgTe CQDs sampled under 113 °C at 1 min, 3 min, 5 min, 7 min, 10 min reaction time, Scale bar, 20 nm. Histogram of diameters for 100 particles.

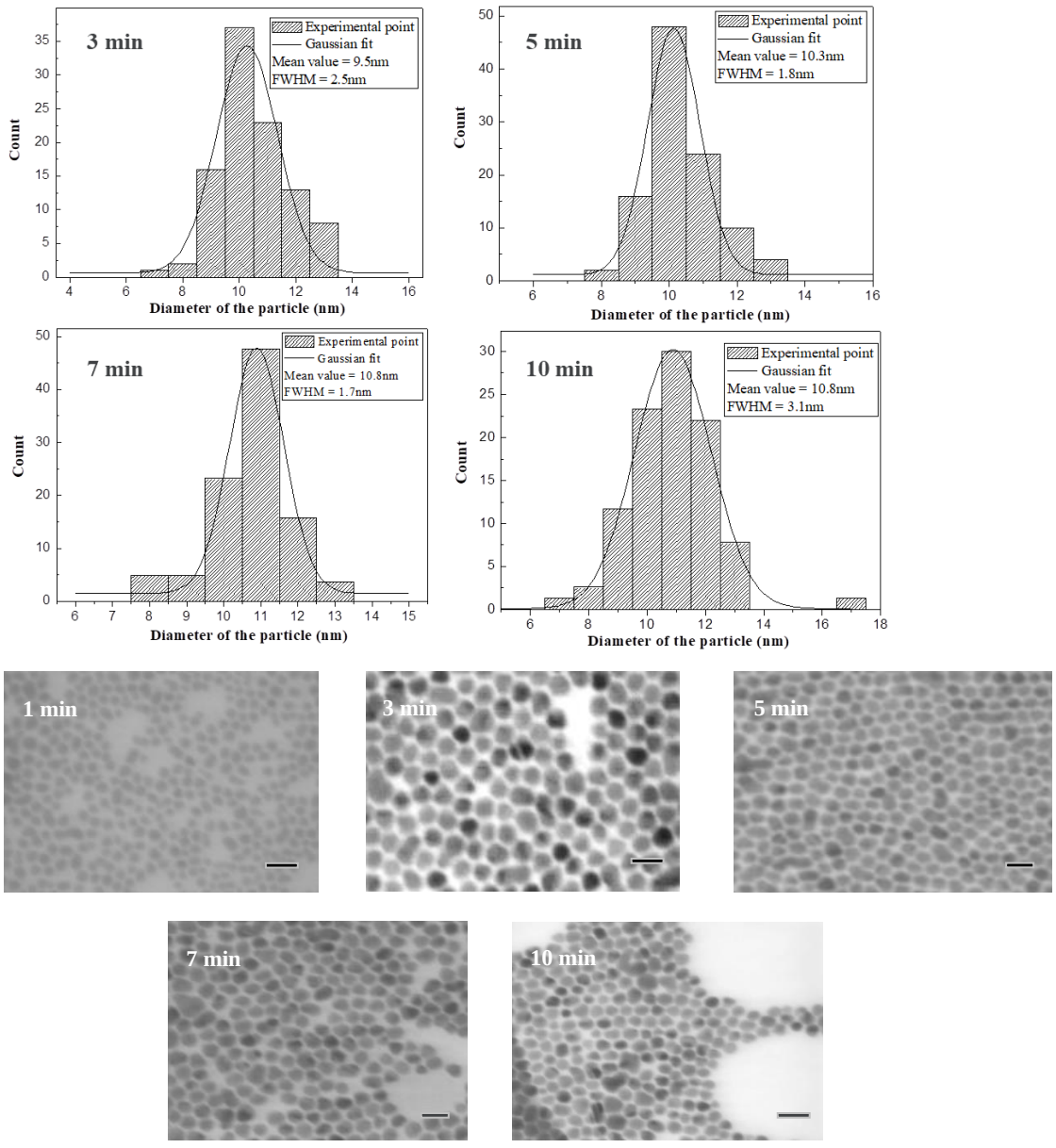


Figure S2. TEM images and histogram of as-prepared HgTe CQDs sampled under 115 °C at 1 min, 3 min, 5 min, 7 min, 10 min reaction time, Scale bar, 20 nm. Histogram of diameters for 100 particles.

3. XPS Overview

The overview is acquired with a 100 eV pass energy and a with a 1 eV resolution, as shown in Figure S3.

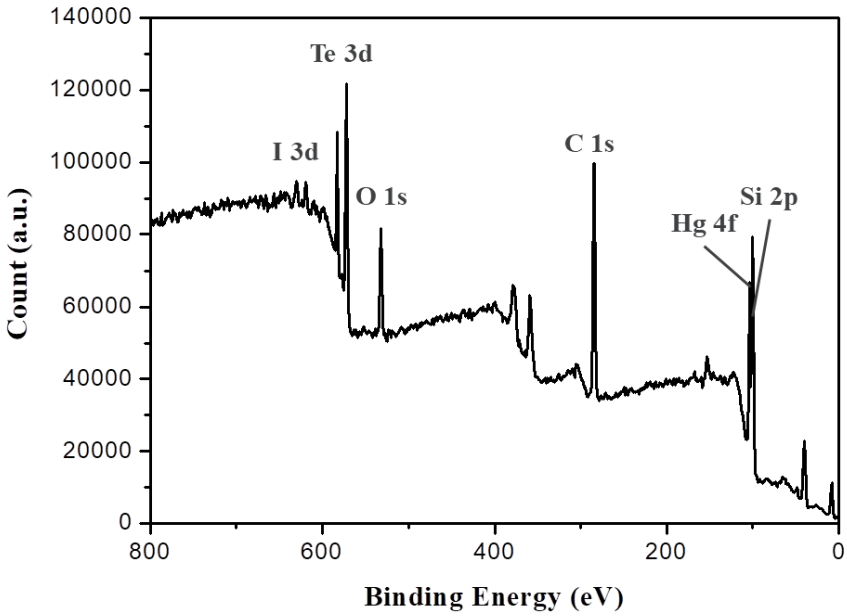


Figure S3. XPS overview for a thin film of I^- in situ passivated HgTe CQDs deposited on a Si/SiO_2 substrate.

4. EDX Spectrum

Figure S4 shows the EDX surface total spectrum of I^- in situ passivated HgTe CQDs film.

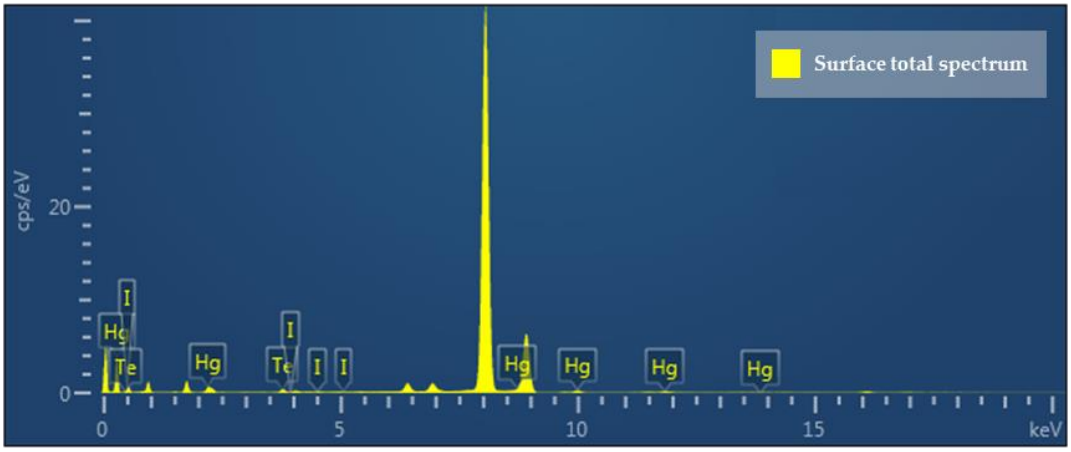


Figure S4. EDX surface total spectrum of I^- in situ passivated HgTe CQDs film.