【本件リリース先】
文部科学記者会、科学記者会、
広島大学関係報道機関

*AS　NA A　A*

広島大学

4　11　28

—　—

RGB
80　100

0.01

34　20　12
1
1
80　85
15　85　85
80　100
6
2　3

TV

LED VR AR
SDGs

---

Stability of Silicon Quantum Dots Against Solar Light/Hot Water: RGB Foldable Films and Ligand Engineering

---

Keisuke Fujimoto[1], Toma Hayakawa[2], Yuping Xu[1], Nana Jingu[3], and Ken-ichi Saitow[*1-4]

1.
2.
3.
4.
*

2022 11 6 *ACS Sustainable Chemistry & Engineering* (IF=9.224)
. a a . /35

1) 2)
100 4 3)
20-40 nm EL 3-4 4) 5
TV

LED

3 ❶
(CdSe CdS )
❷ Cd
100
70 Si (SiQD)

0.01
17 (SiQD) SiQD
2009 SiQD 2012 SiQD LED 2015 1/380
SiQD 2020 80 SiQD
2022 1 SiQD LED 2022 2
SiQD

SiQD

1 SiQD 40 mm
0.5 3 mm SiQD 2
SiQD 8 80 100 12
6

6

SiQD
660 nm 530 nm 400 nm 1
34 20 12
SiQD
Si-O-Si
SiQD 2a
SiQD 6h
8
80 ( 2b)
SiQD 80 12 85
15
SiQD 1
SiQD 80

10

11 SiQD
2 SiQD SiQD ( 3) 3

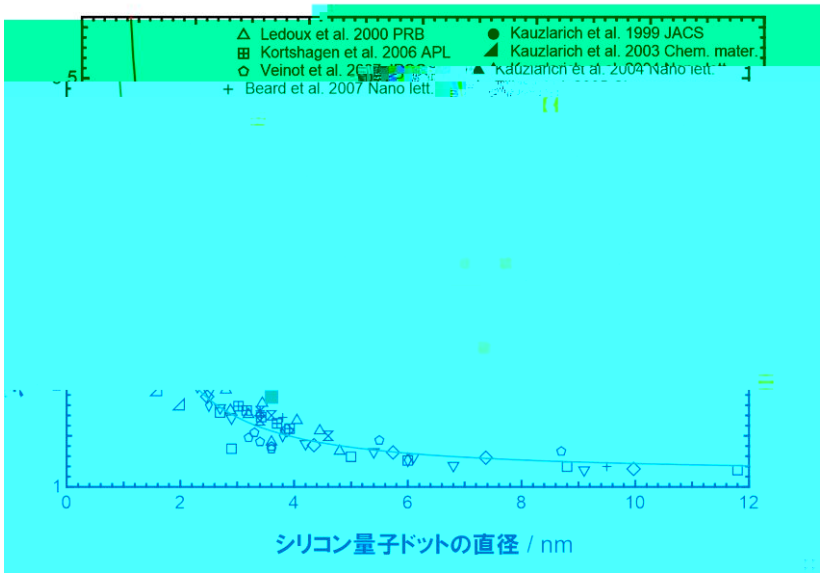
SiQD 80
100 SiQD

LED VR
AR
SDGs 12
7

SiQD LED

2026
86 SDGs
8 9

1. (a) (SiQD)




3. SiQD

F(fast) S(slow)

1 Si-O-Si

2

3

4 PLQY 50
50

5 LED 1000
100

6
85 85
80
100 SiQD

Tel 082-424-7487 FAX 082-424-7486
E-mail saitow@hiroshima-u.ac.jp
URL: https://home.hiroshima-u.ac.jp/saitow/ ( )

5