

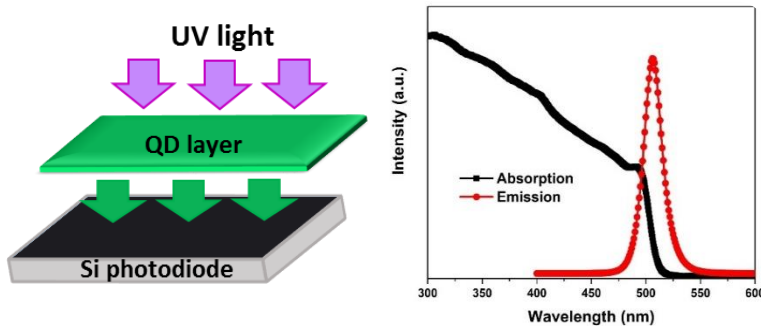


Perovskite Quantum Dots for UV Sensors

Silicon photodiode is the most widely used commercial photodetector for a broad range of applications, from imaging to light sensors. Unfortunately, it has low responsivity and suffer in capturing UV light range (< 400 nm), due to the low penetration depth of high energy UV photons in the silicon-based materials. QDot™ Perovskite Quantum Dots can be utilized as a color-converting layer to enhance the UV light sensitivity of Si-based photodetectors.

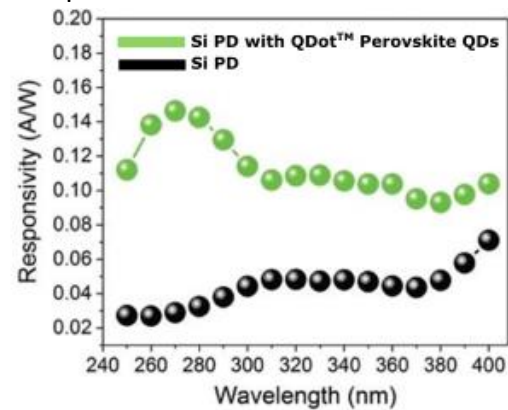
BENEFITS:

- High photo-conversion of UV light into visible light (PLQY up to 100 %)
- High absorption coefficient of UV light
- Tunable emission 410-685 nm



DEVICE EXAMPLE:

QDot™ Perovskite QDs can convert UV light into lower energy green light where Si-based photodetectors have a high sensitivity. QDot™ Perovskite QDs ABX3-510 can be used in the form of QDs in a polymer film or a spin coated layer on top of the Si-based photodetector.

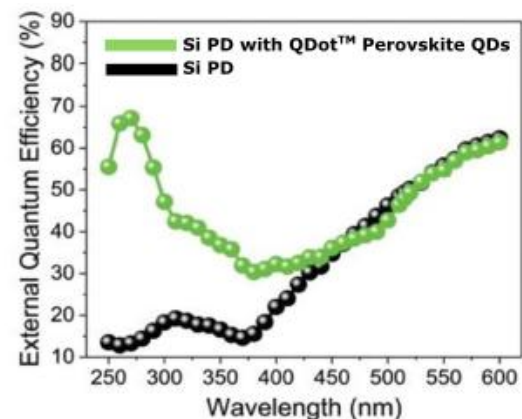


PERFORMANCE:

QDot™ Perovskite Quantum Dots

Emission	410-685 nm
PLQY at UV light excitation	Up to 100 %
FWHM	< 20-35 nm
UV light absorption range	100-400 nm
PL decay time (372 nm)	4.5 ns
Responsivity improvement in Si-PD with QDot™ Perovskite QDs	10^2-10^3

By utilizing only very thin layer of QDot™ Perovskite QDs on top of Si-based photodetector, the responsivity of the devices increases in response to UV light, without scarifying the response to the the visible light.



Products portfolio:

[QDot™ Perovskite ABX3 Quantum Dots](#)

[QDot™ SharpGreen Perovskite QDs](#)

[QDot™ SharpGreen Perovskite QDs Film](#)