

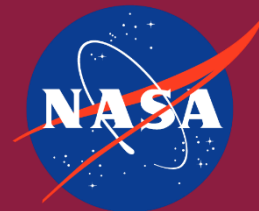
Photochemistry with Diamond

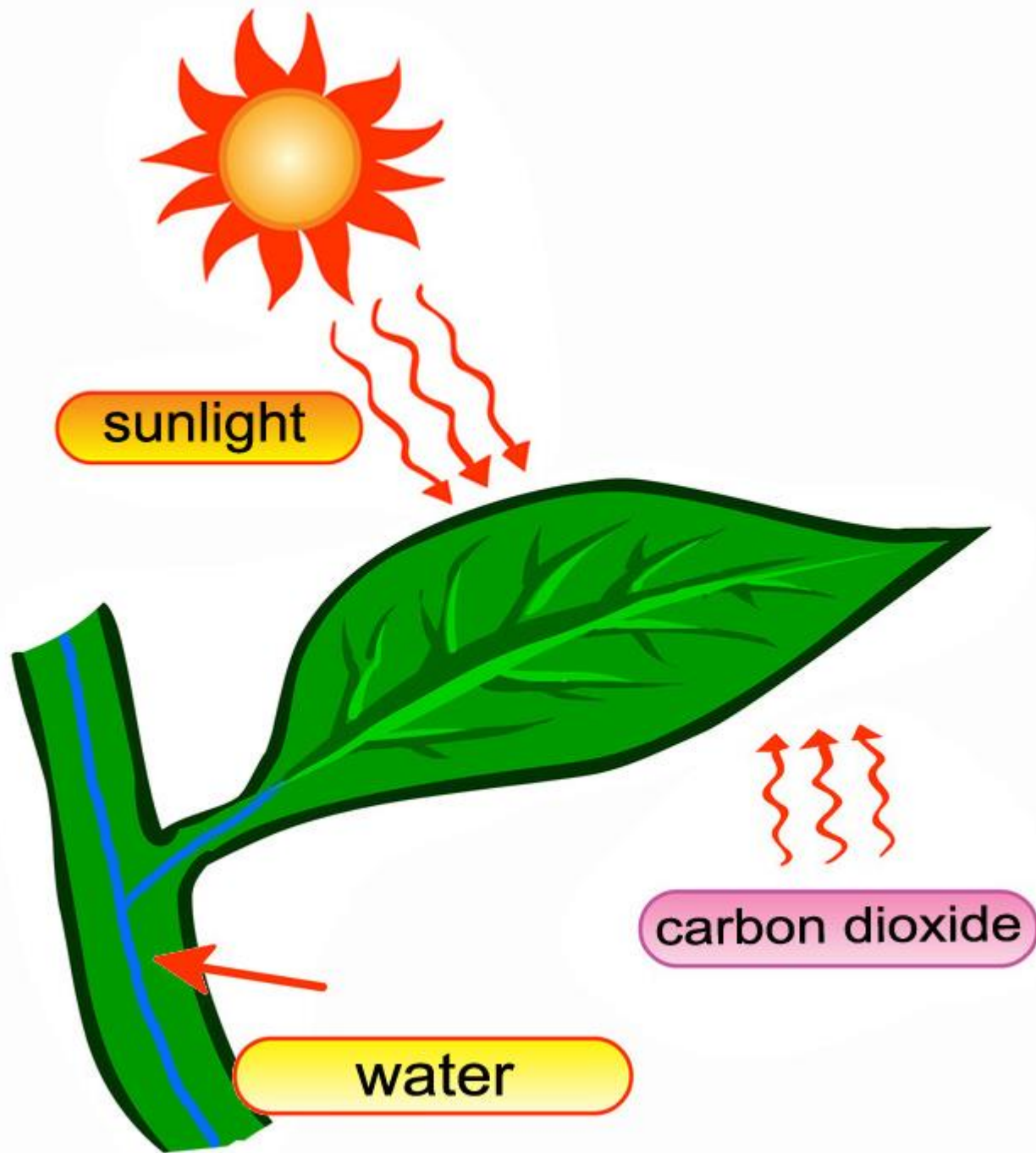
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~~photosynthesis~~

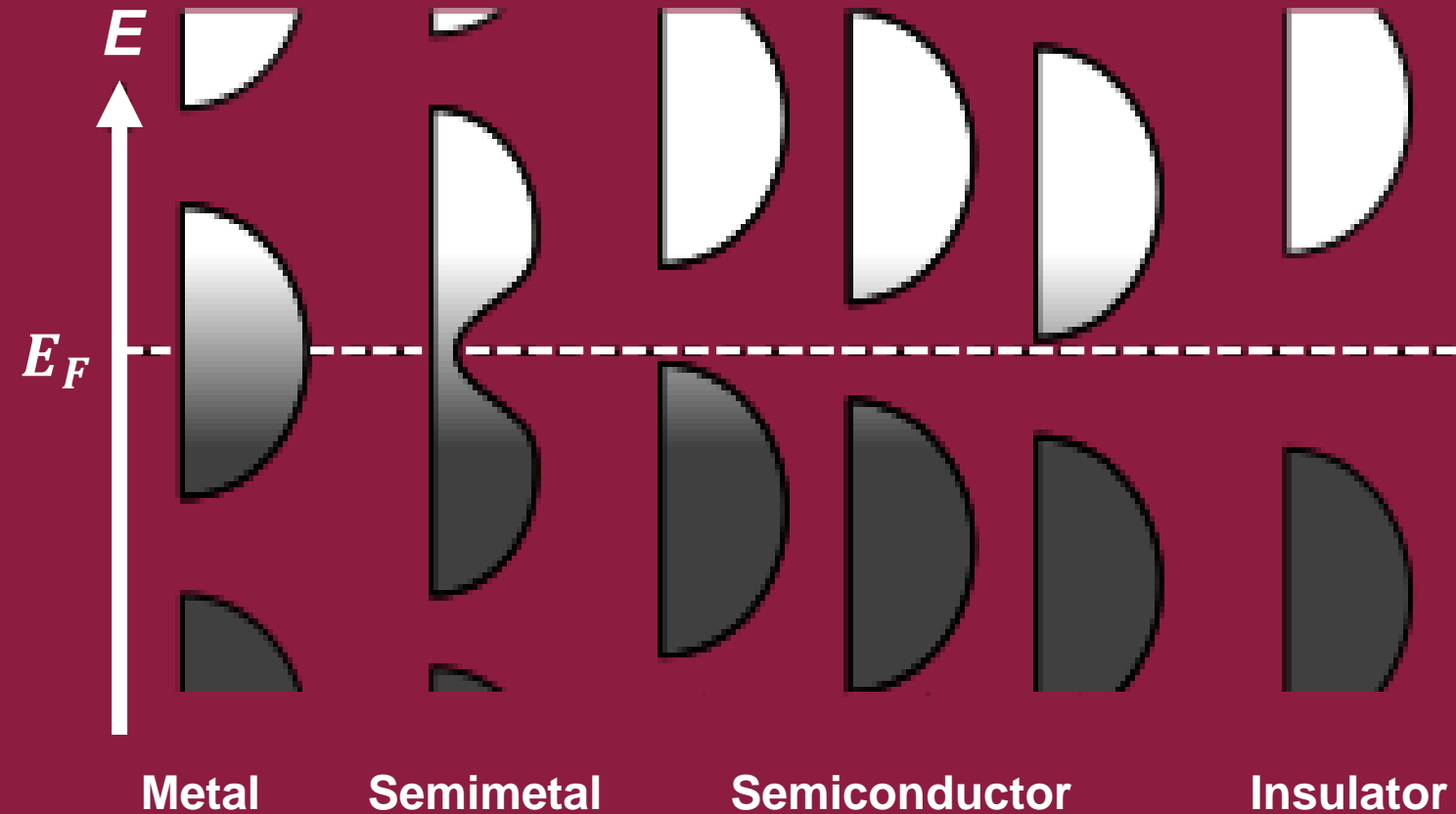
photochemistry

Semiconductors

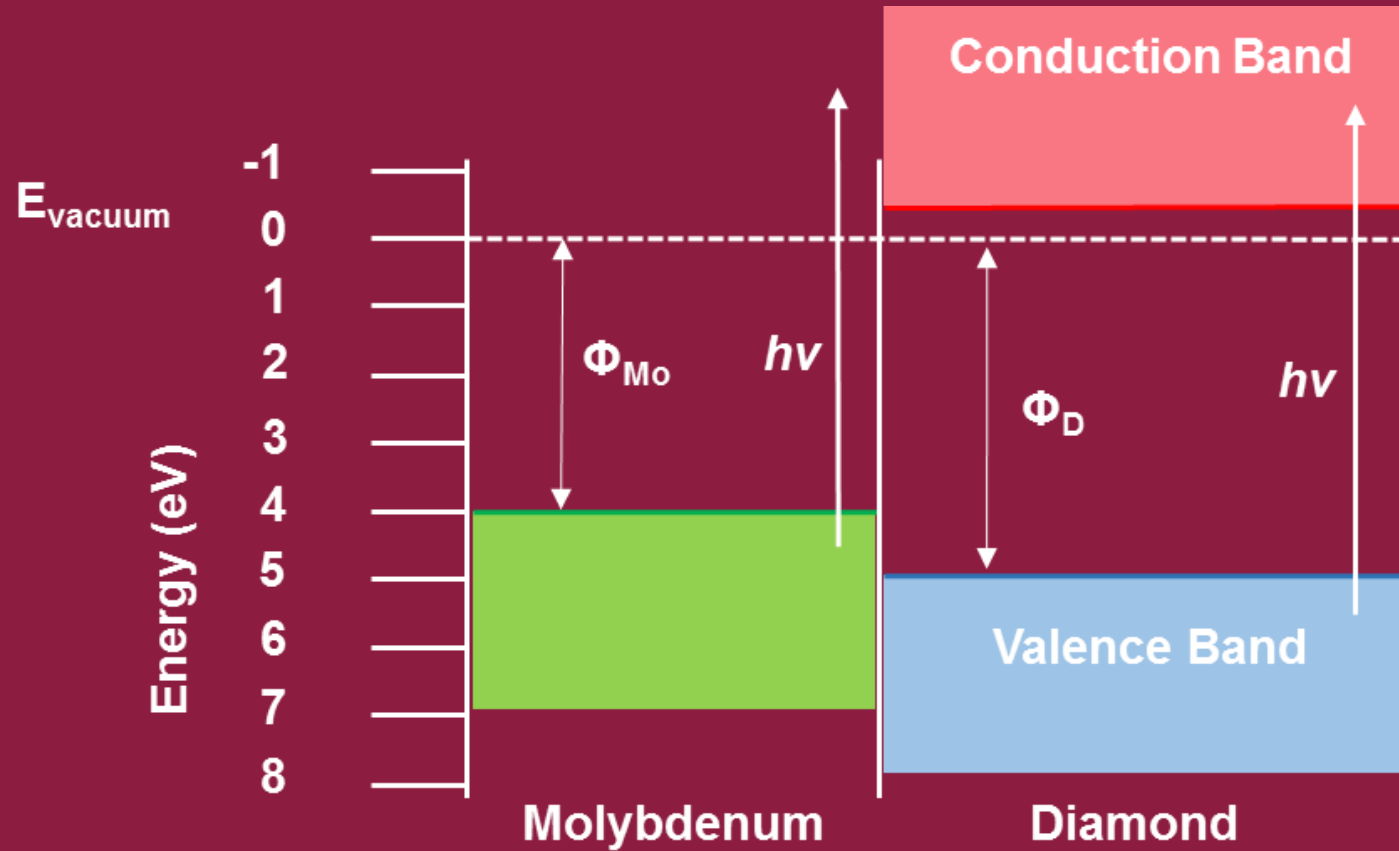
Unique electrical conductive behavior

Between conductors and insulators

Require energy to conduct



Unique Properties

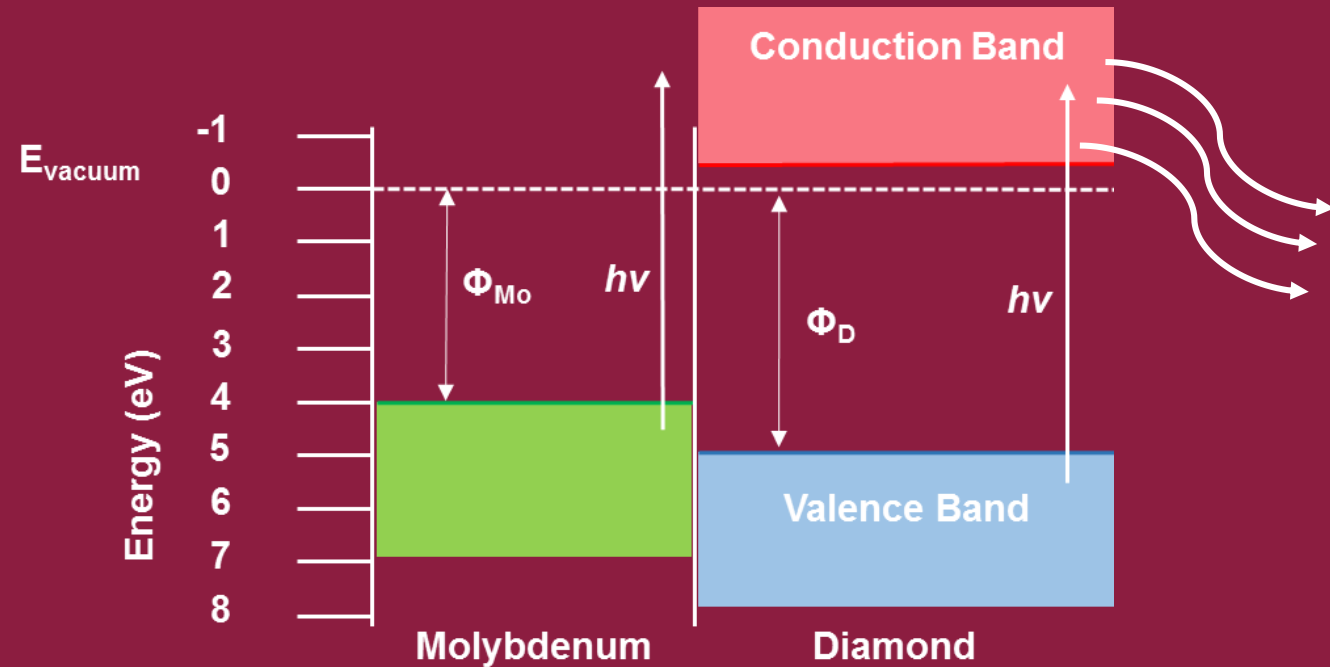


Photoemission

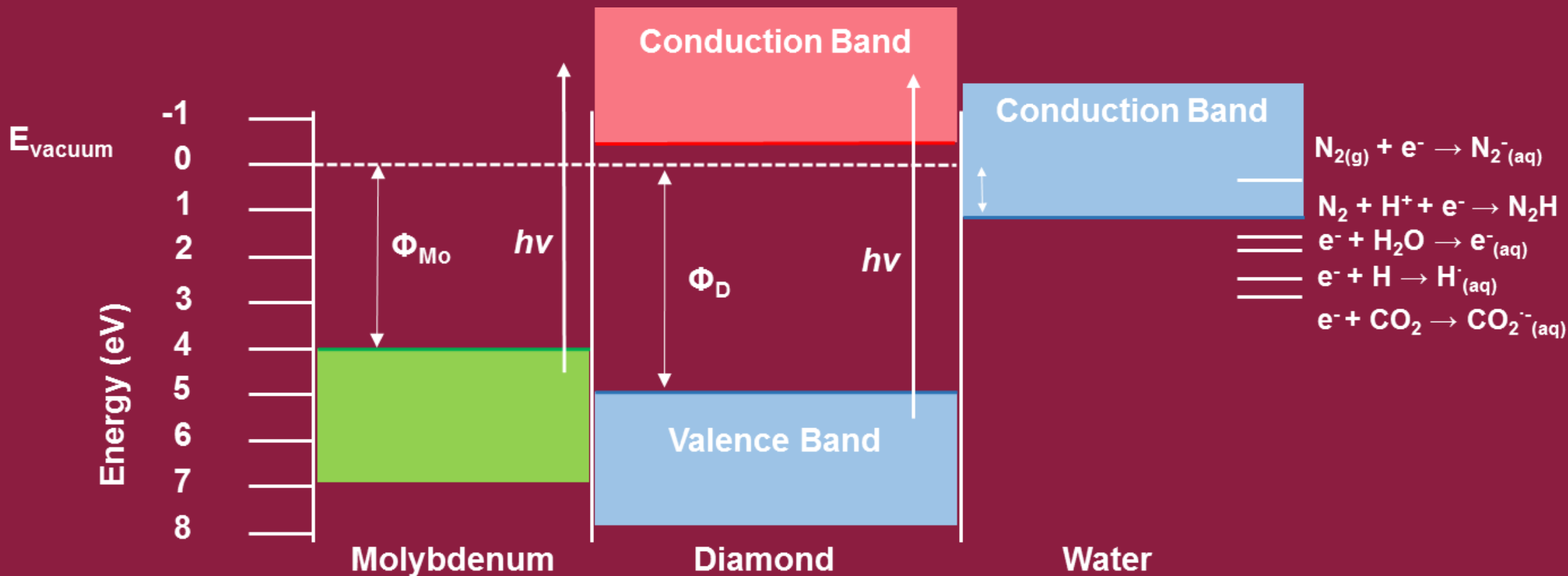
Electrons excited to states above vacuum level

Transported to the sample surface

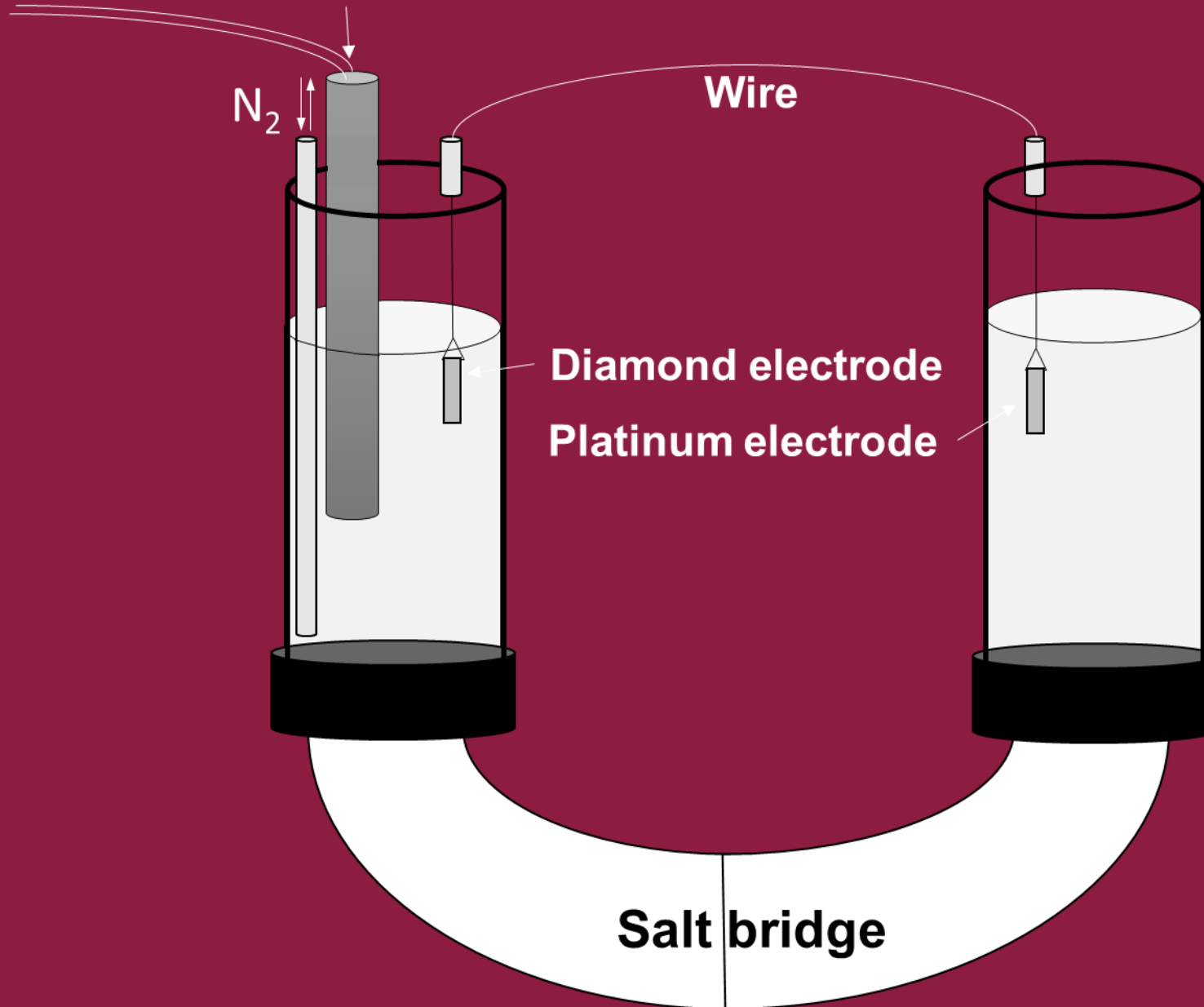
Emitted into vacuum

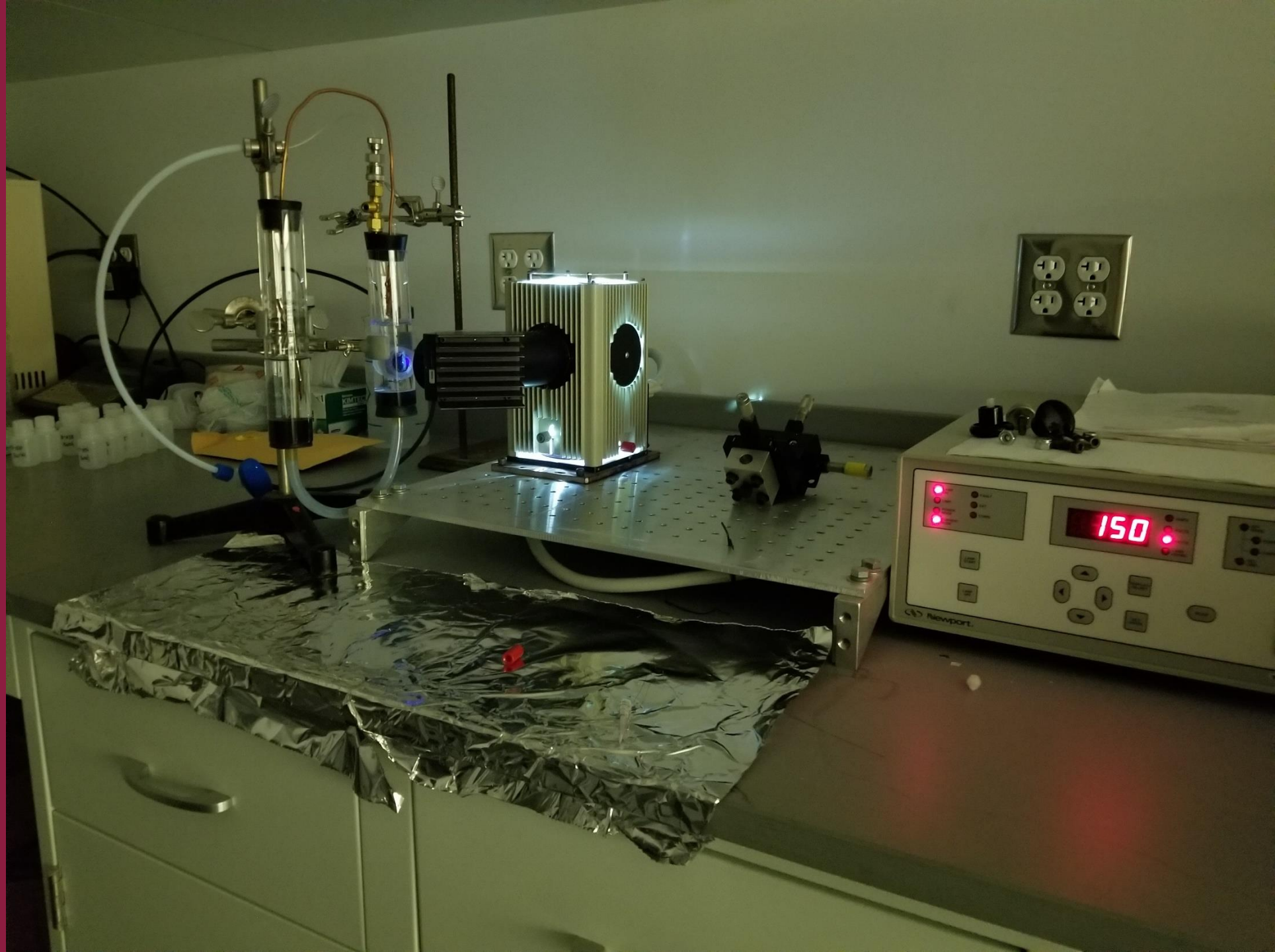


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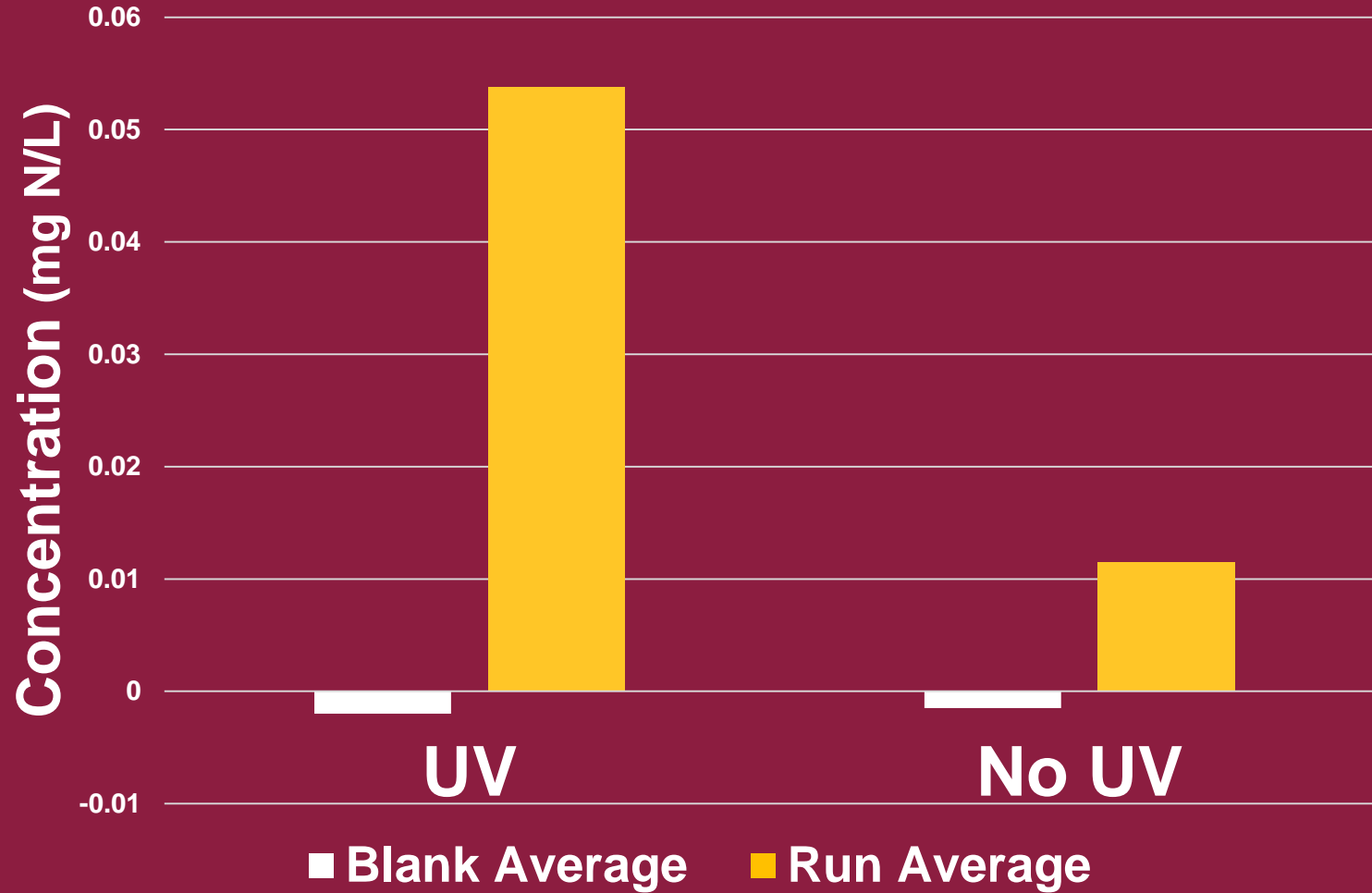


Ion Selective Electrode

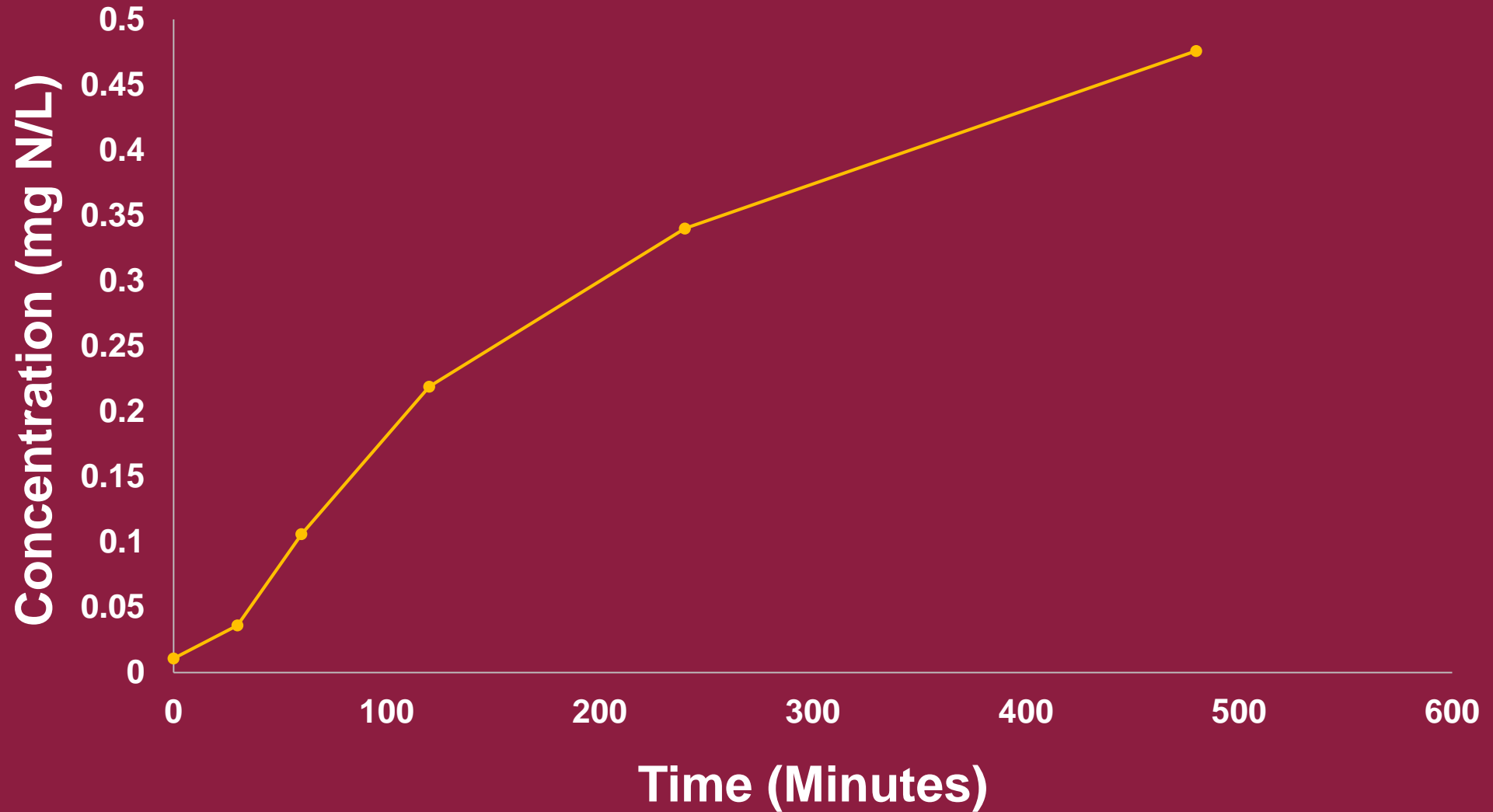




Photochemistry



Photochemistry



Continuing Research

Utilize physical properties to reduce effective work function

Reproduce results in visible light spectrum

Increase diamond stability over time

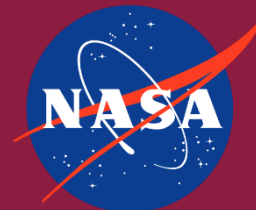
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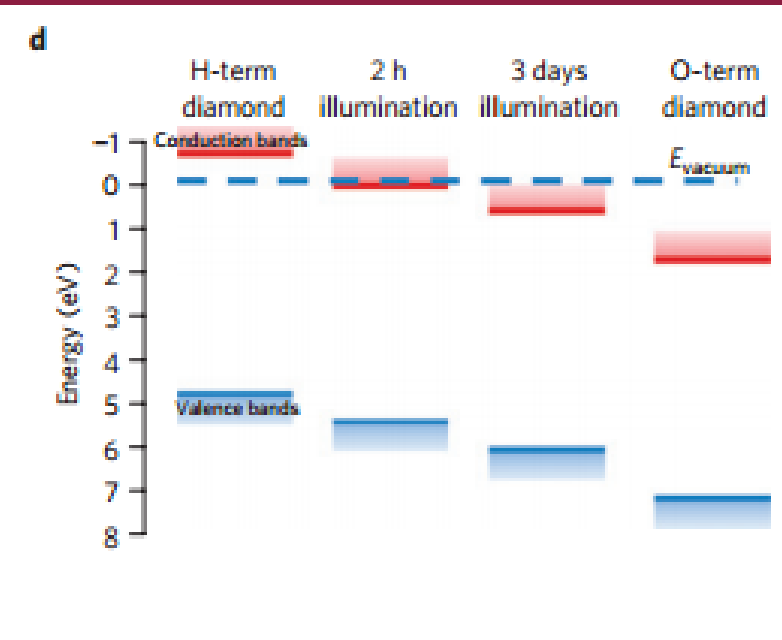
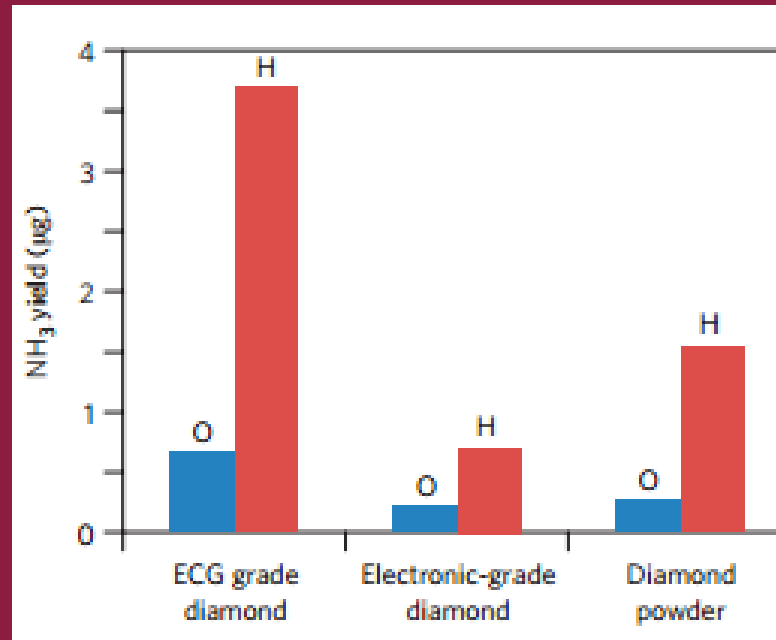
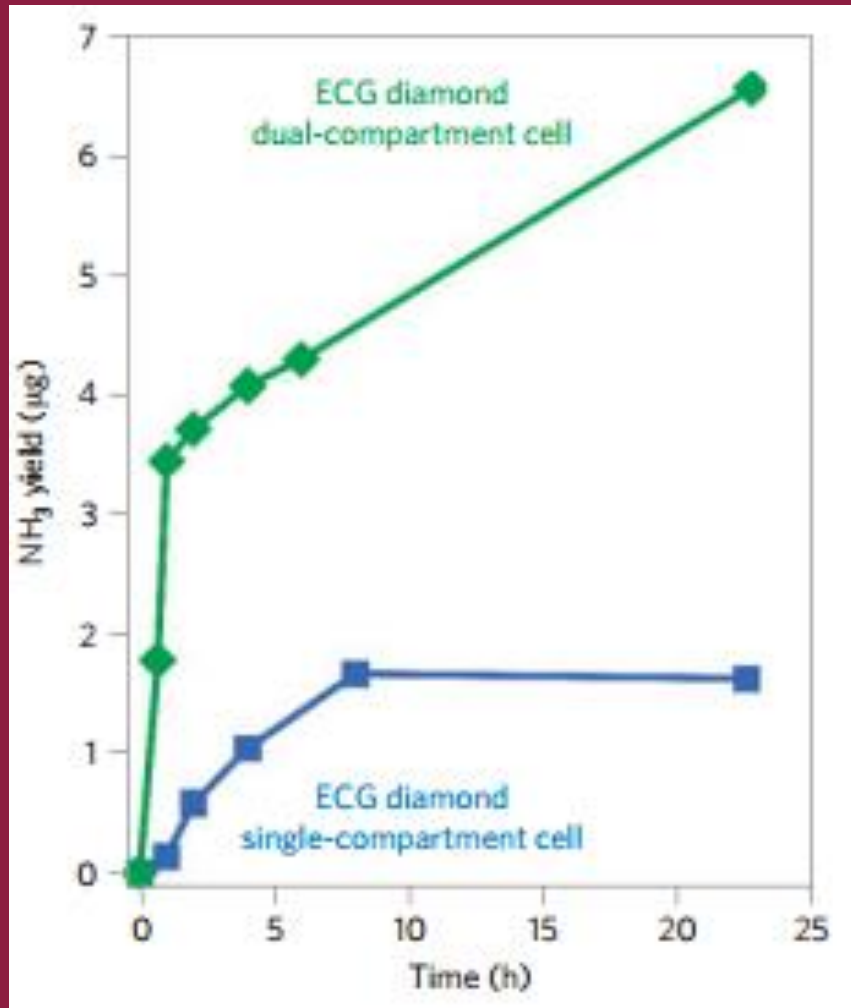
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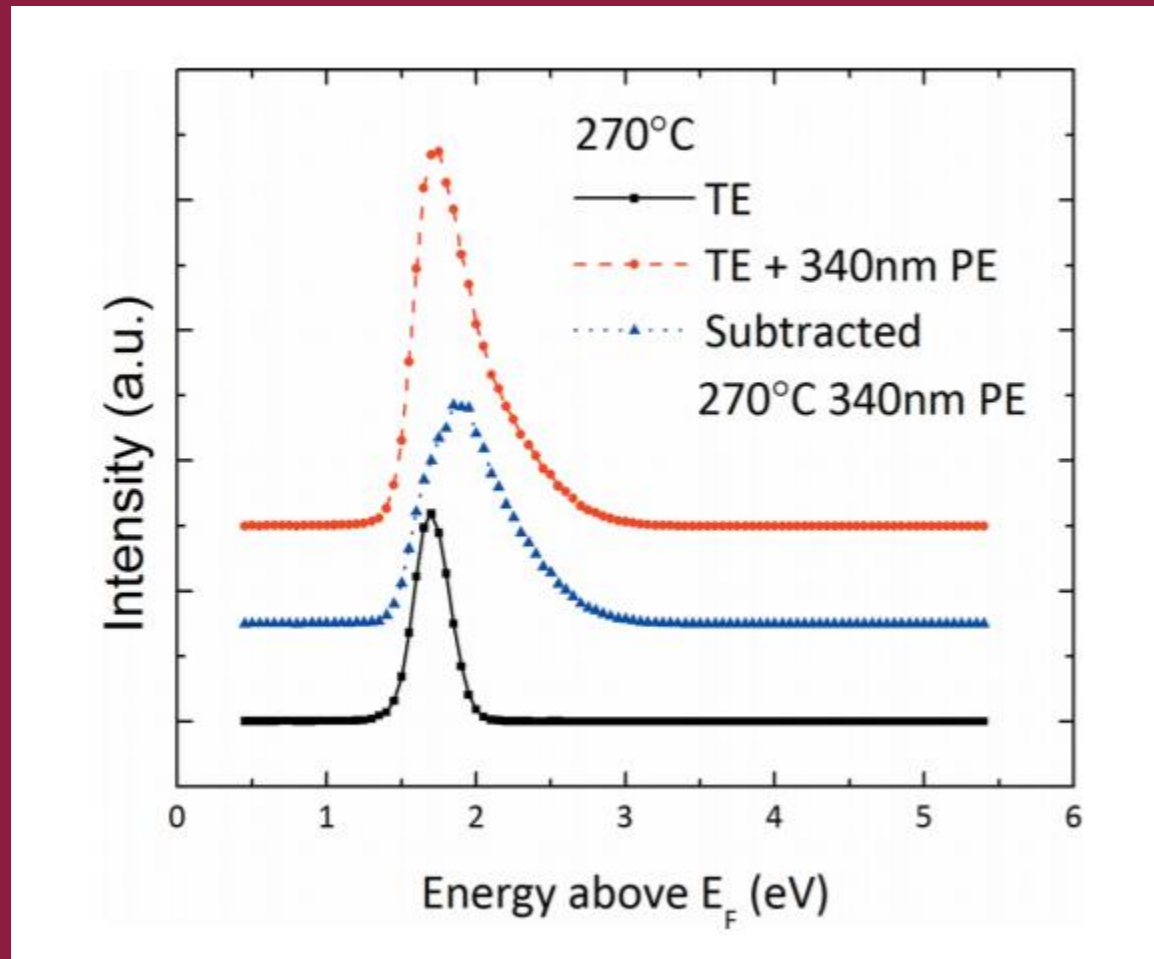
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Diamond visible photoemission



The total emission, thermionic emission, and subtracted photoemission component from diamond sample at 270 C and 340 nm illumination.