

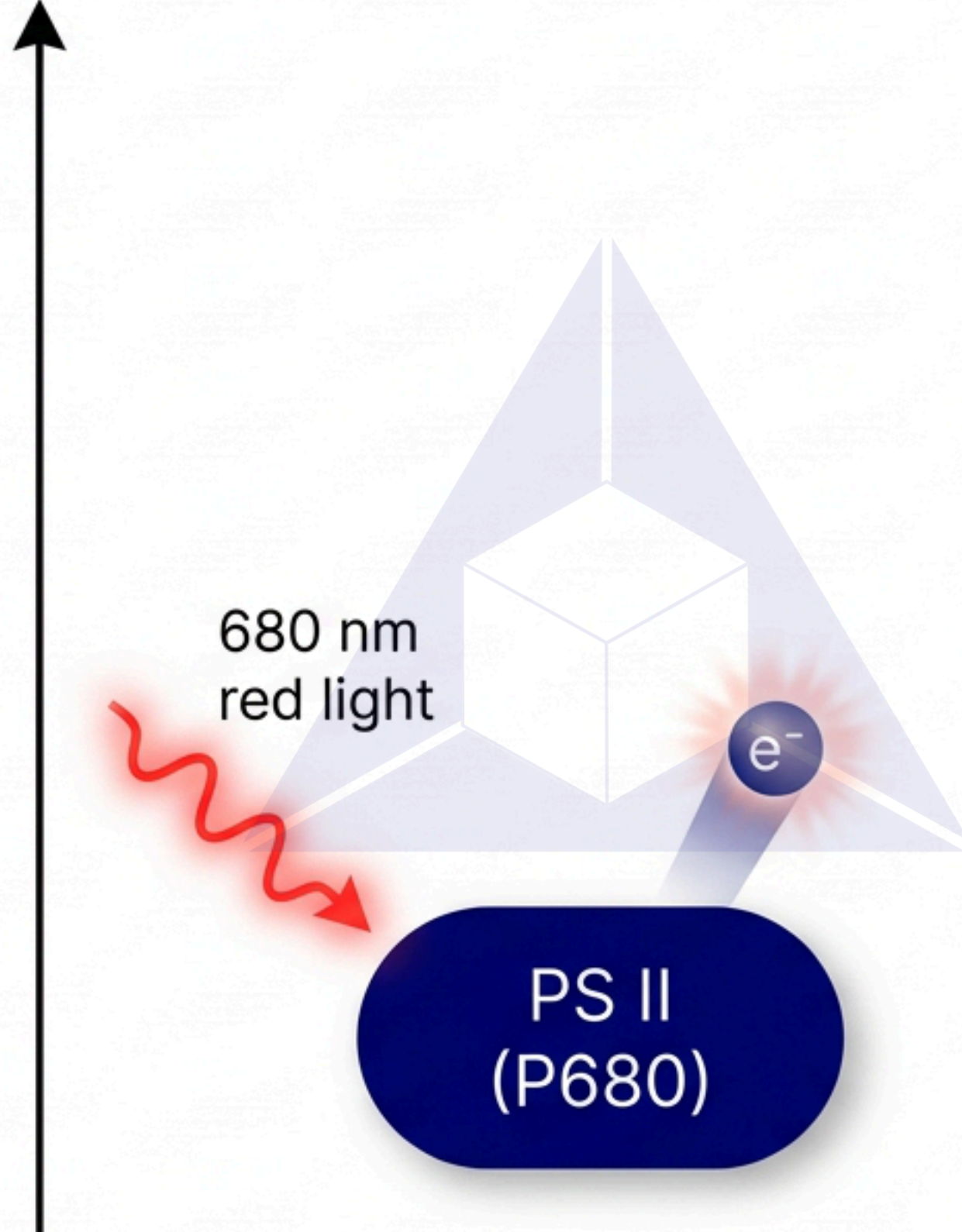
The Electron Journey from PS II to NADPH

Mapping the Z Scheme of Light Reactions
in Higher Plants



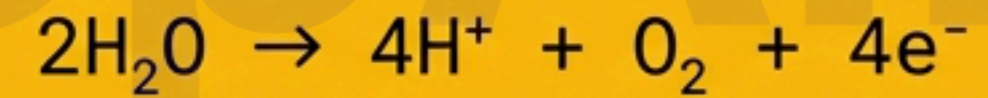
Redox Potential
Scale

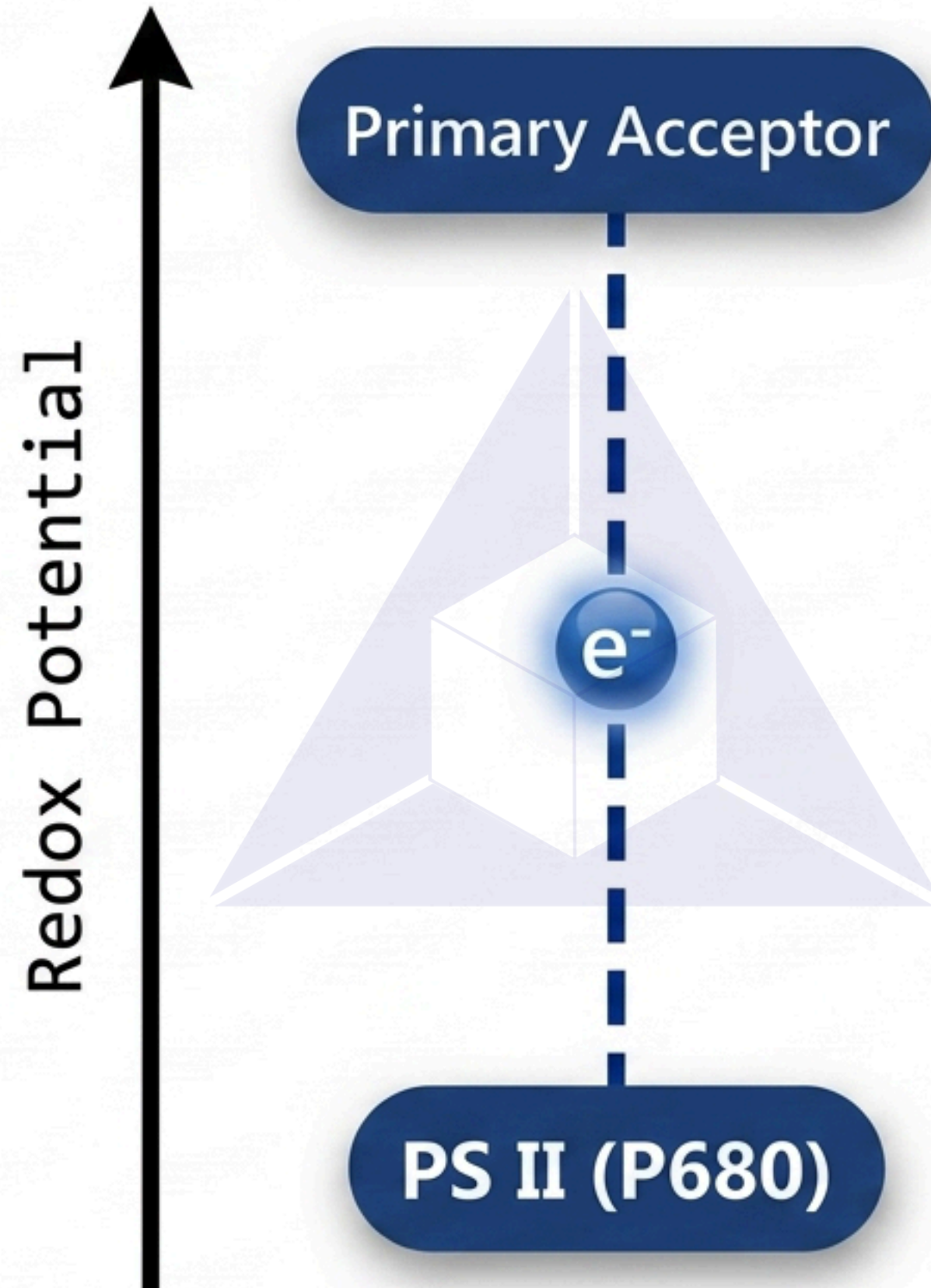
Redox Potential



Continuous Supply

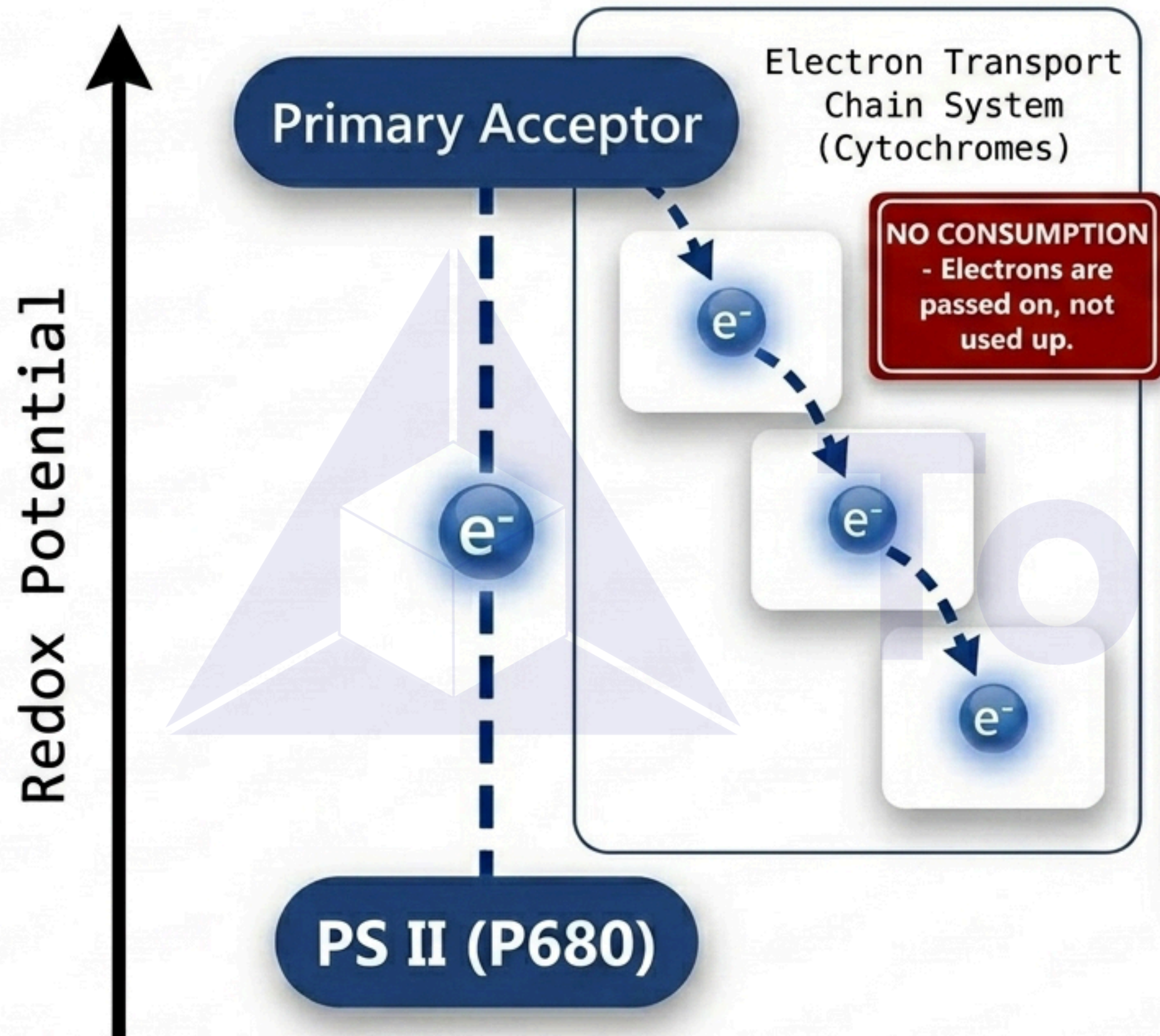
Electrons removed from PS II are instantly replaced by the splitting of water.





The absorption of 680 nm light excites electrons, causing them to jump uphill against the oxidation-reduction potential scale.

They are captured by an electron acceptor molecule.



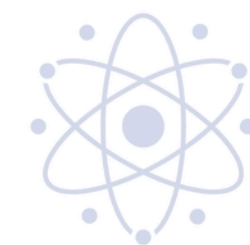
Electrons flow downhill along the redox potential scale through a transport chain consisting of cytochromes.

This flow links the first electron acceptor to the second photosystem.



**You've Learned the Theory.
Let's Test Them Now.**

$$E=mc^2$$



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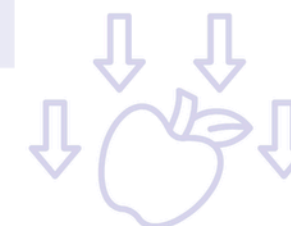
Practice Now

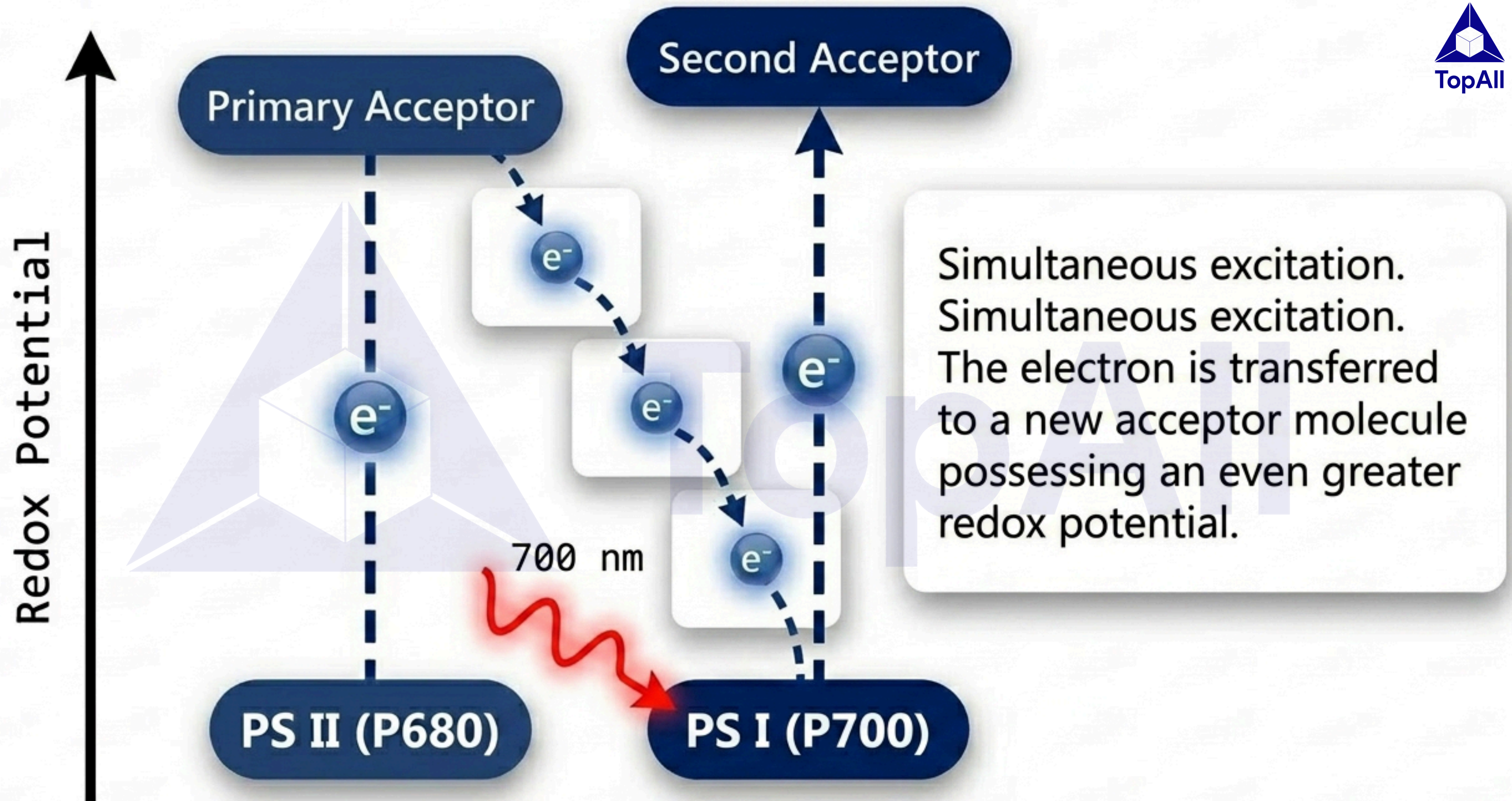


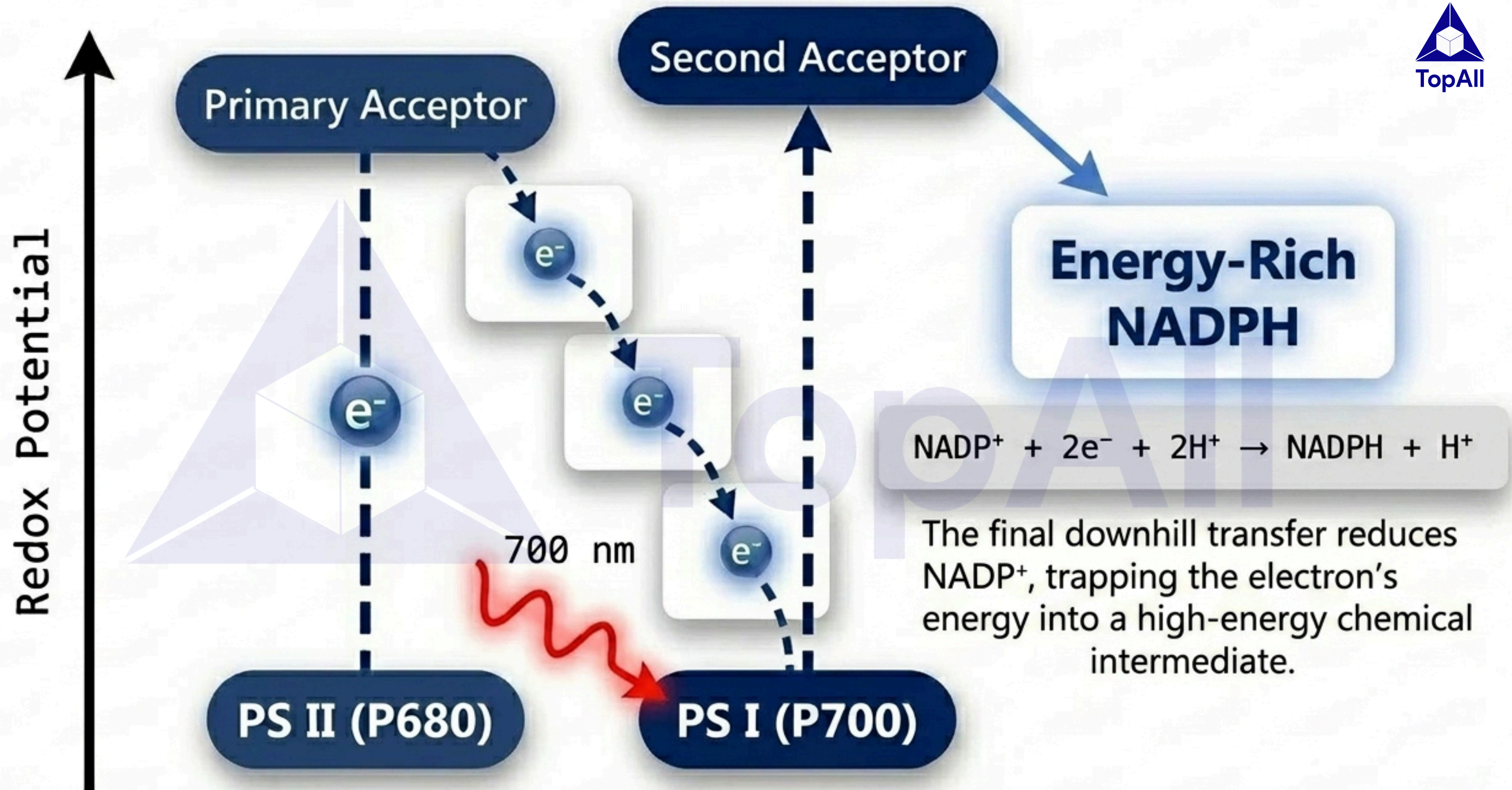
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- » Get Clear Explanations, Not Just Marks
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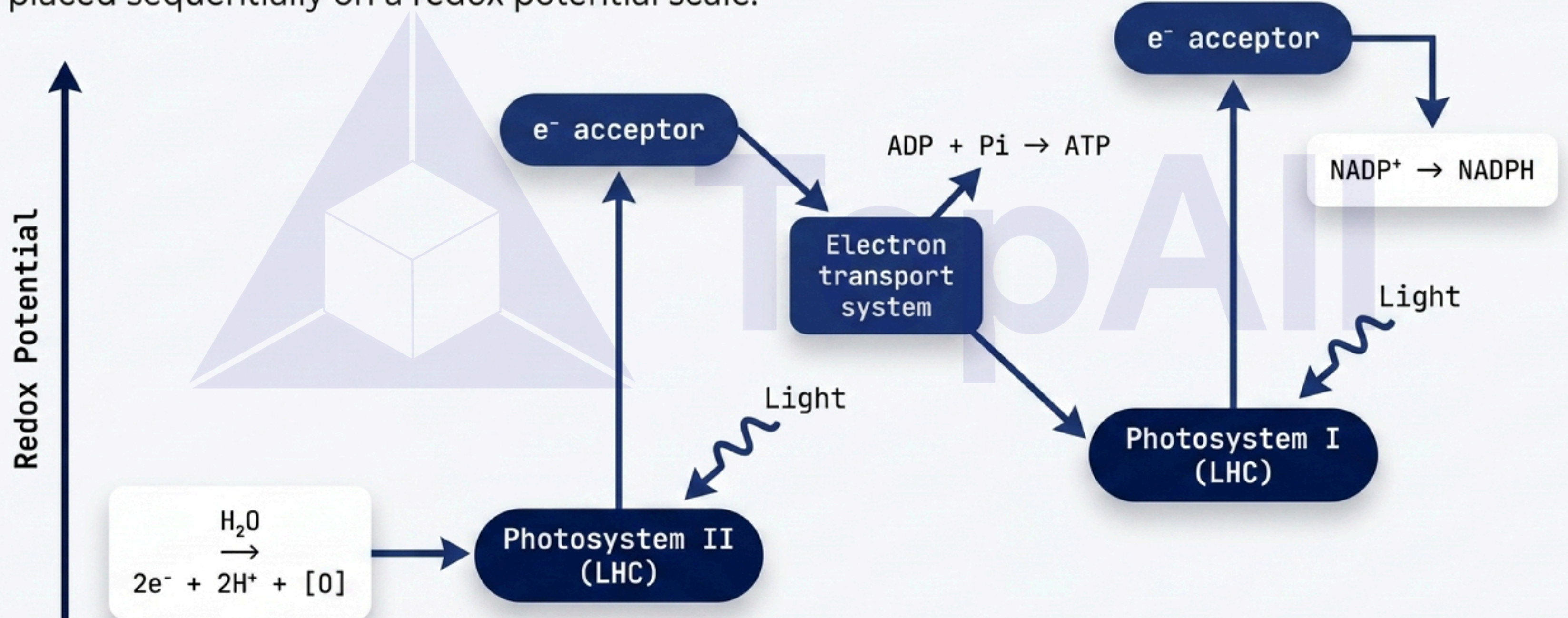






The Z Scheme

Named for its characteristic shape when all carriers are placed sequentially on a redox potential scale.



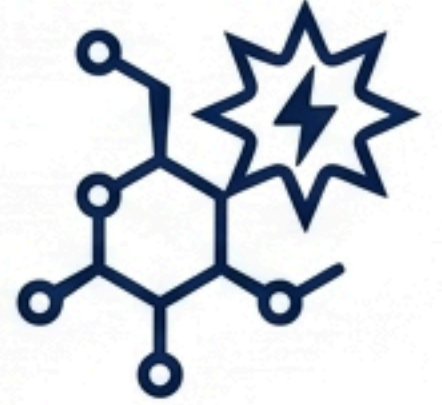


Input

The Biological Purpose

The entire Z-Scheme exists to transform solar energy into accessible chemical energy.

- Light absorption and water splitting release O_2 into the atmosphere.
- The downhill/uphill electron flow creates high-energy intermediates: ATP and NADPH.
- These intermediates are the vital fuel required for the biosynthetic phase (fixing CO_2 to build sugars).



Output



You've Learned the Theory.

Now Let's Test It.

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