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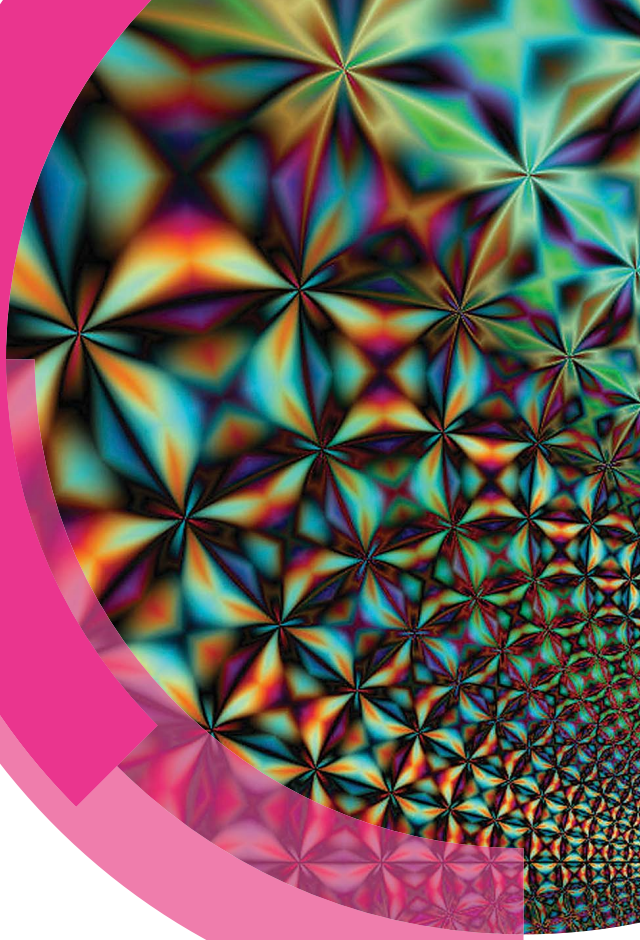

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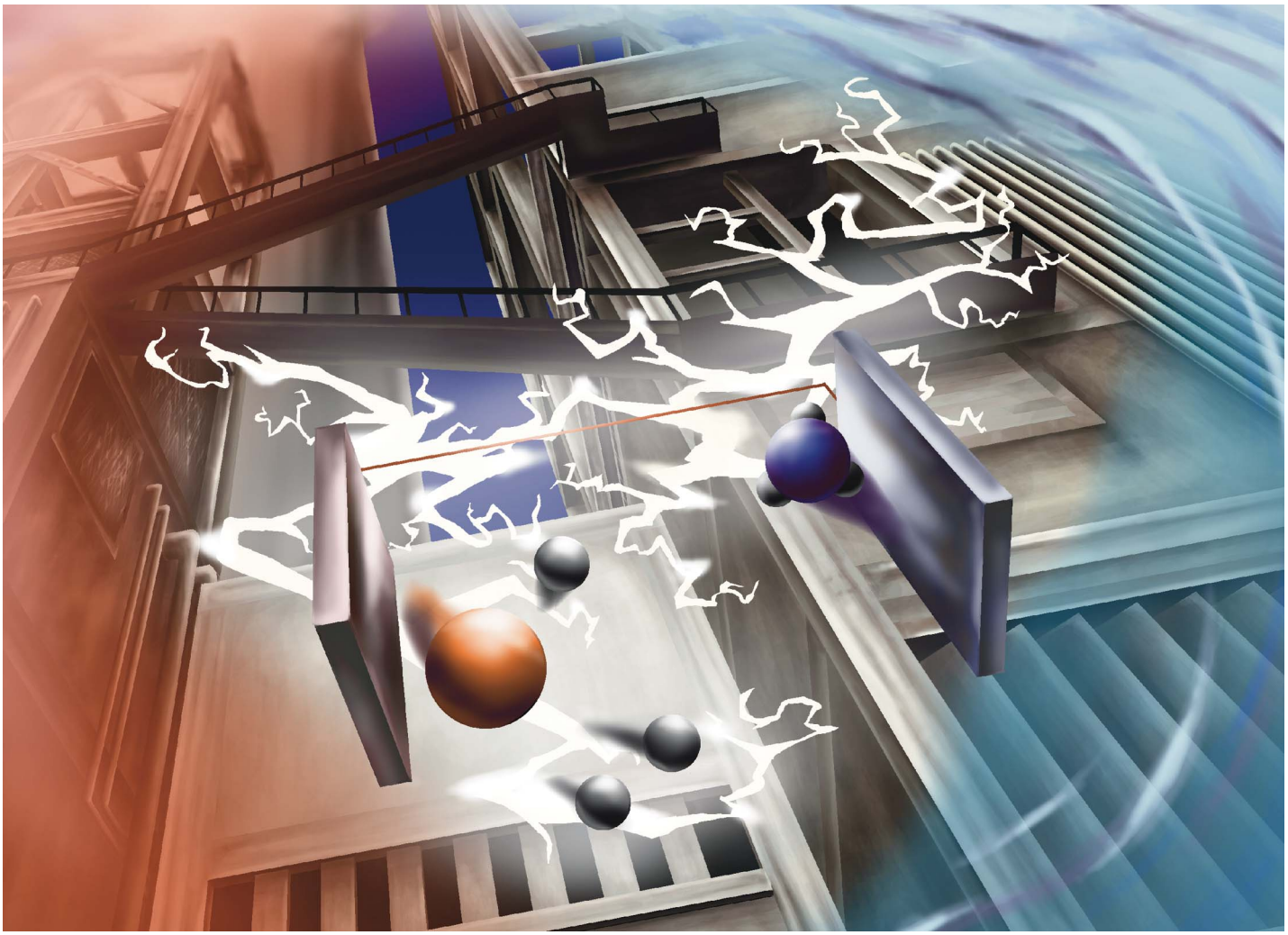

Showcasing research from Professor Yamada's laboratory, Department of Chemistry, University of Tokyo, Japan.

An aqueous vanadium complex for the superior electrolyte of a thermo-electrochemical cell

A thermocell using a vanadium aqua complex. Proton-coupled electron transfer (PCET) reaction causes high solvation entropy of proton during redox reaction that results in a high Seebeck coefficient of −3.2 mV K^{-1} in water and −3.2 mV K^{-1} in a mixed solvent. The vanadium aqua TEC exhibits superior ZT values compared to $[Fe(CN)_6]^{3-/4-}$ due to higher ionic conductivity. This research suggests vanadium aqua complex as a promising alternative for TECs with significant potential for practical applications.

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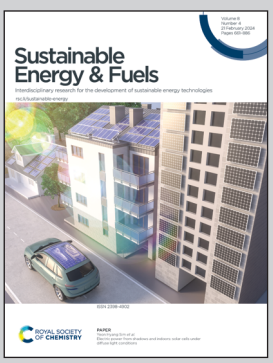

See Teppei Yamada *et al.*, *Sustainable Energy Fuels*, 2024, **8**, 684.

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