

CORRECTION

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Correction: Lithium-mediated electrochemical dinitrogen reduction reaction

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Correction for 'Lithium-mediated electrochemical dinitrogen reduction reaction' by Muhammad Saqlain Iqbal *et al.*, *Ind. Chem. Mater.*, 2023, DOI: <https://doi.org/10.1039/D3IM00006K>.

The authors regret that the incorrect permissions were provided in the figure captions of Fig. 1–15 in the original article. The correct versions of the figures, including the updated permissions, are shown below.

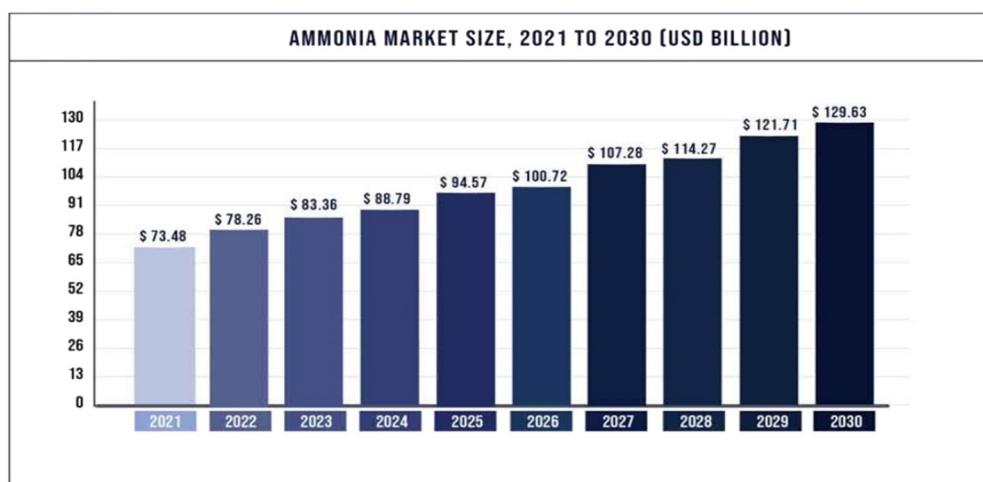


Fig. 1 Projected global ammonia demand growth from 2021 to 2030.² Copyright 2023, Precedence Research.

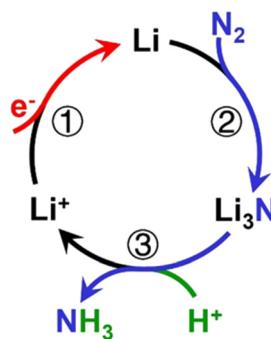


Fig. 2 Mechanism of catalytic recycling of lithium intermediates. Reproduced with permission.²³ Copyright 2021, Wiley-VCH.

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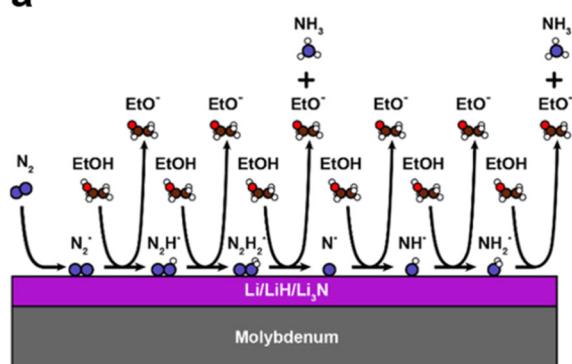
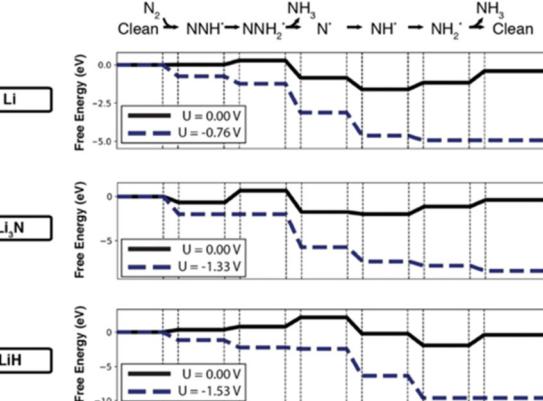
a Heterogeneous Mechanism**b**

Fig. 3 (a) A 'Heterogeneous mechanism', in which there is a stable amount of lithium on the electrode at all times; (b) free energy diagram of NH_3 formation on the surfaces of Li, Li_3N , and LiH. The free energy diagram is represented through dash lines when the limiting potential is switched on. All of these surfaces are active for NH_3 synthesis. Reproduced with permission.⁴¹ Copyright 2020, Wiley-VCH.

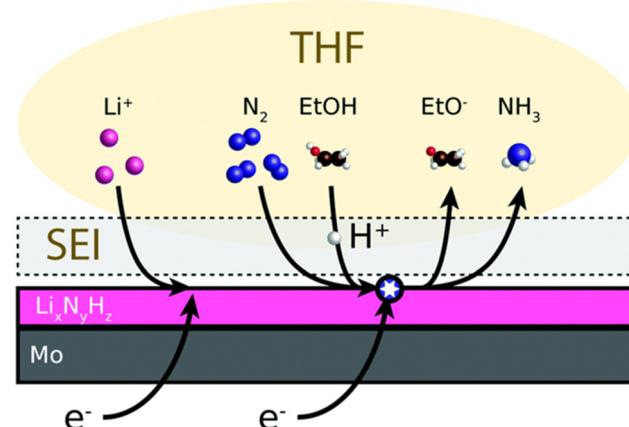


Fig. 4 Schematic of the mechanism for Li-eN₂RR to NH_3 . A non-aqueous electrolyte (THF) contains lithium salt which is electrodeposited onto a metal electrode (Mo) as metallic Li. Reproduced with permission.³⁸ Copyright 2020, Royal Society of Chemistry.

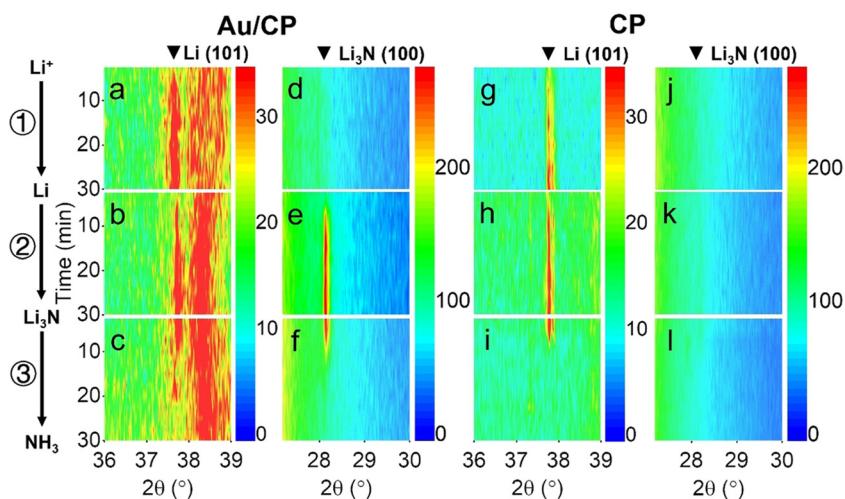


Fig. 5 *In situ* XRD contour maps of (a) and (d) Au/CP and; (g) and (j) CP under Ar atmosphere; (b) and (e) Au/CP and (h) and (k) CP under N_2 atmosphere without EtOH; (c) and (f) Au/CP and (i) and (l) CP under N_2 atmosphere with EtOH. Reproduced with permission.²³ Copyright 2021, Wiley-VCH.

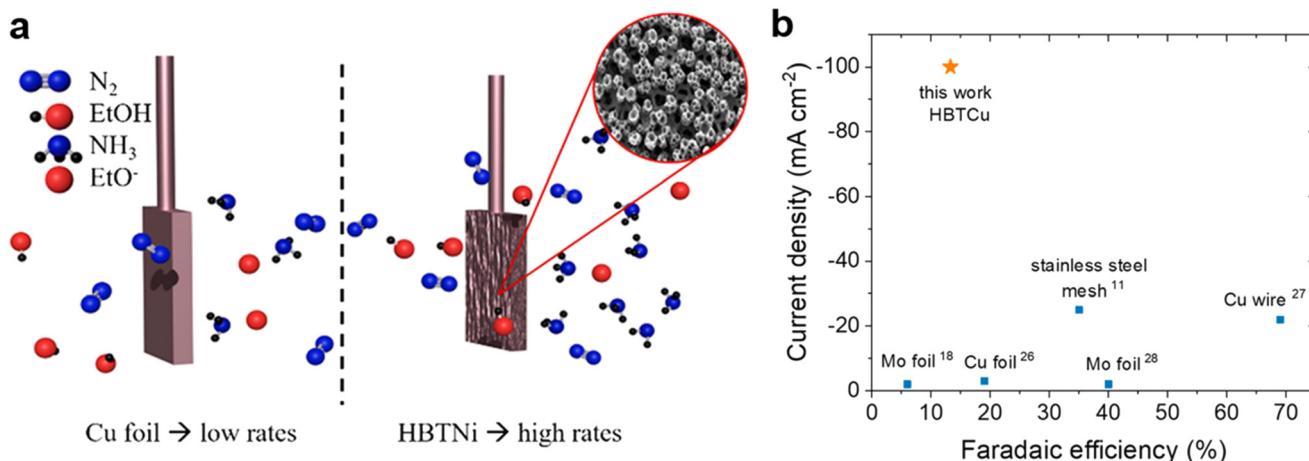


Fig. 6 (a) Illustration of Cu foil and HBT Cu for Li-mediated eN₂RR; (b) comparison of HBT Cu and previously reported electrode materials in terms of current density and NH₃ FE. Reproduced with permission.⁵⁸ Copyright 2022, American Chemical Society.

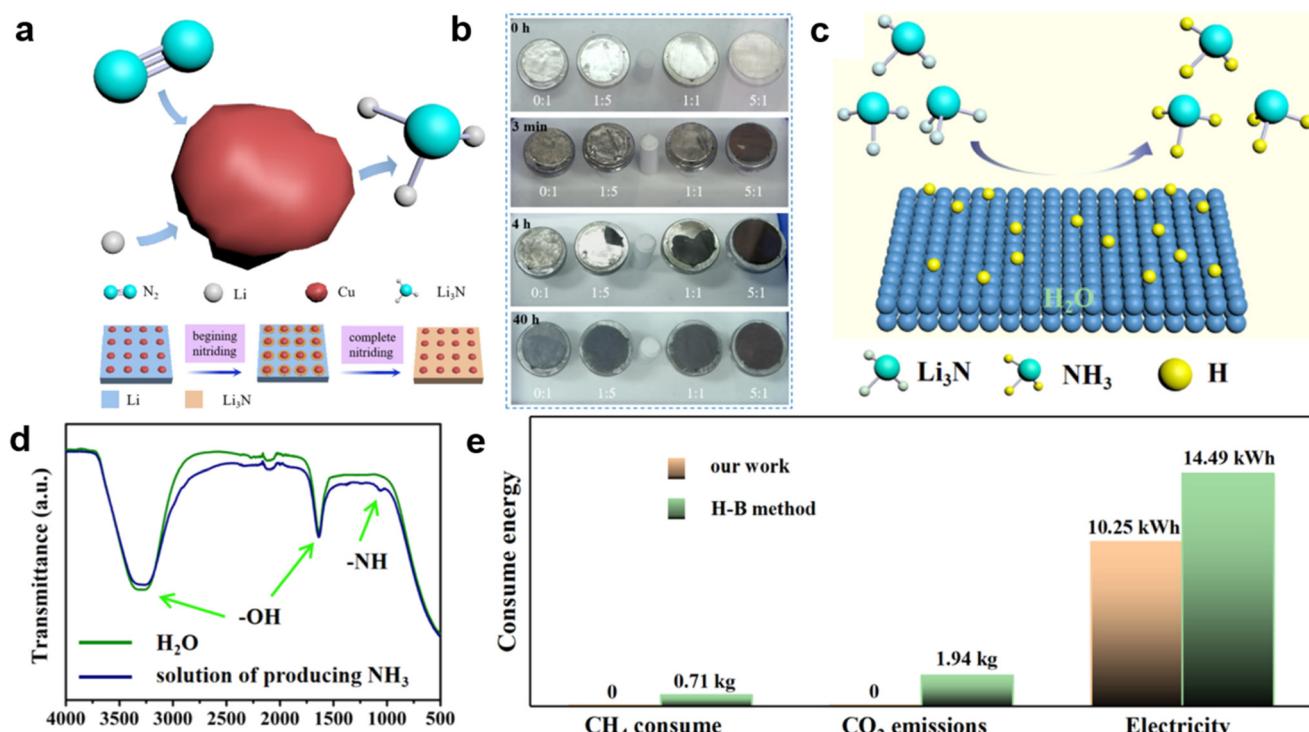


Fig. 7 (a) Illustration of Cu-catalyzed lithium nitridation (top panel) and steps for the formation of Li₃N/Cu from Li/Cu (bottom panel); (b) catalytic effect of Cu-to-Li mass ratio on the nitridation process; (c) illustration of NH₃ synthesis from the reaction of Li₃N and H₂O; (d) infrared spectra of H₂O and the electrolyte solution after reaction; (e) comparison of this work with the H-B process in terms of energy consumption for production of 1 kg of NH₃. Reproduced with permission.¹⁴ Copyright 2022, American Chemical Society.



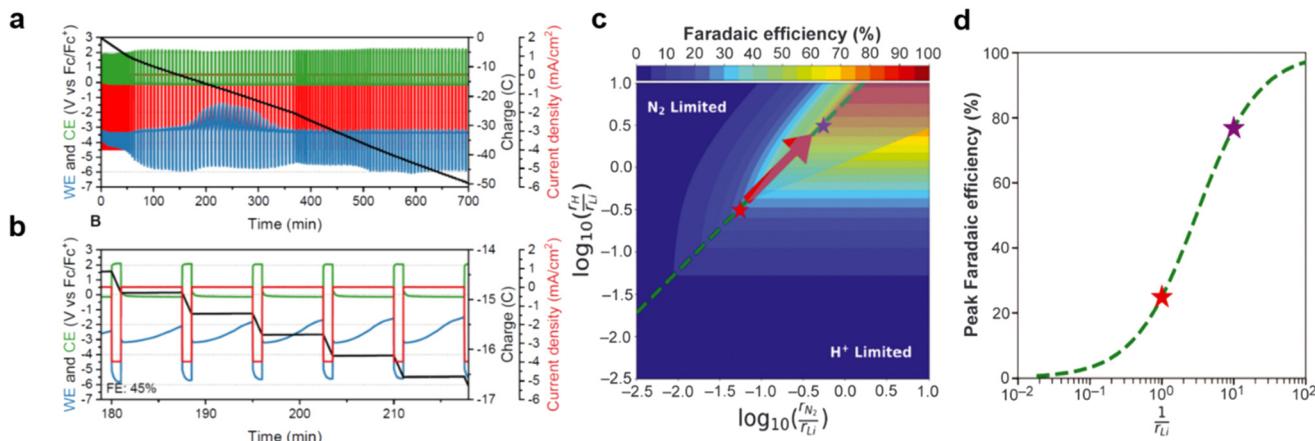


Fig. 8 (a) Cycling method between -2.0 and 0.0 mA cm^{-2} (red) for a total of 100 C of charge passed (black); (b) a close-up of the cycling; reproduced with permission.³⁸ Copyright 2020, Royal Society of Chemistry; (c) heatmap of the predicted FE against the ratio of N_2 to lithium (x axis) and proton to lithium (y axis) diffusion rates; (d) a one-dimensional plot of NH_3 FE cut along the optimal $r_{\text{N}_2}/r_{\text{H}}$ ratio. Reproduced with permission.⁵⁹ Copyright 2021, American Association for the Advancement of Science.

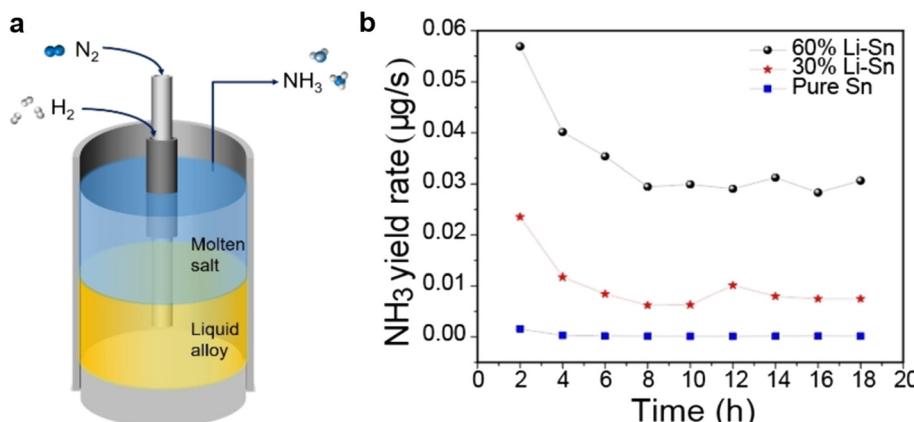


Fig. 9 (a) Graphical illustration of Li-eN₂RR containing Li-Sn alloy and molten LiCl-KCl salt forming a biphasic system; (b) NH_3 yield rate against electrolysis time on Li-Sn and pure Sn. Reproduced with permission.⁶² Copyright 2021, Wiley-VCH.

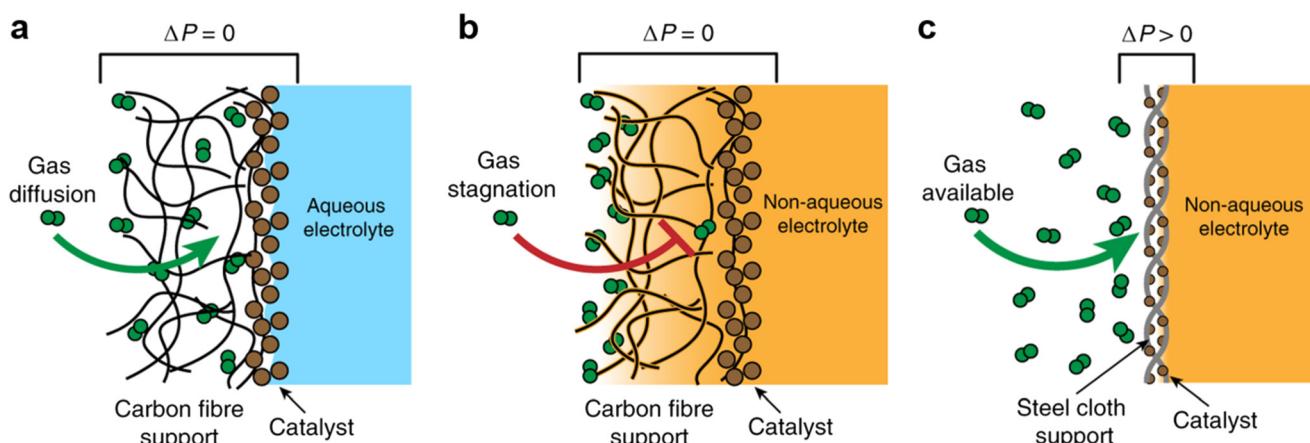


Fig. 10 (a) A hydrophobic GDE with an aqueous electrolyte; (b) a hydrophobic GDE with a non-aqueous electrolyte; (c) a catalyst-coated (SSC) GDE with a non-aqueous electrolyte. Reproduced with permission.²² Copyright 2020, Springer Nature.

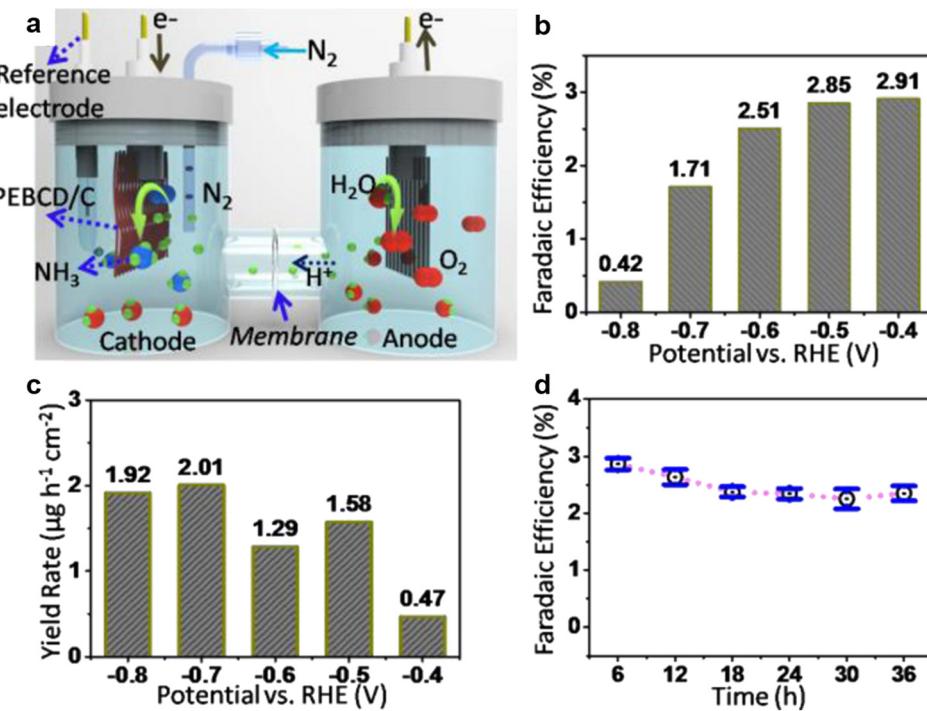


Fig. 11 (a) The graphic illustration of the configuration of the electrochemical cell for the eN_2RR process; (b) FEs of the Li^+ -PEBCD/CC catalyst at different potentials during the eN_2RR ; (c) NH_3 yield rate against applied potential during the eN_2RR ; (d) durability test results for Li^+ -PEBCD/CC. Reproduced with permission.³ Copyright 2017, American Chemical Society.

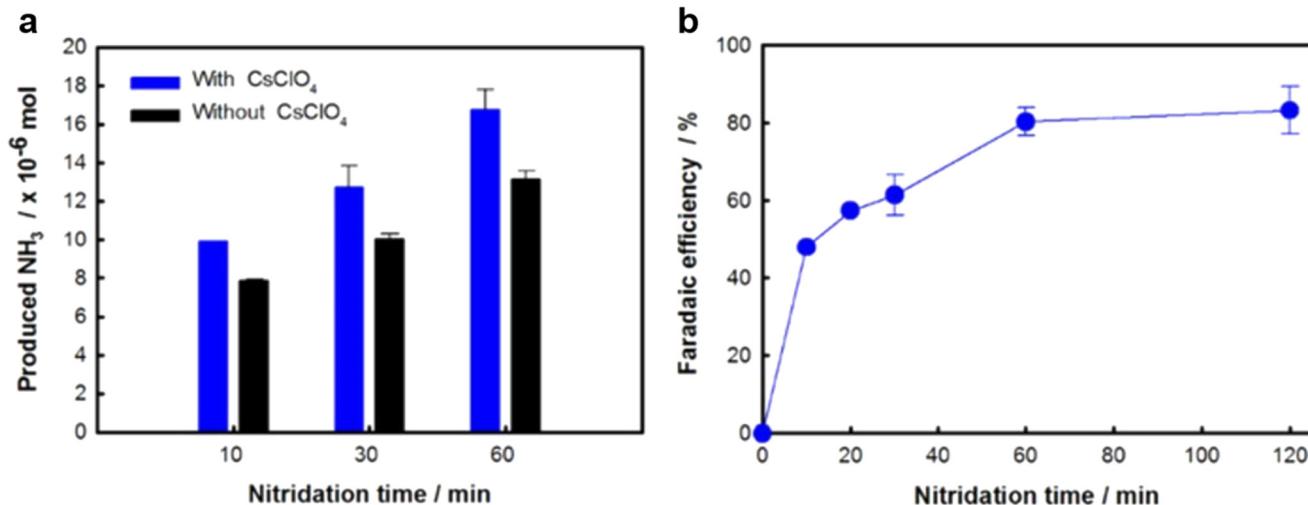


Fig. 12 (a) NH_3 yield and (b) NH_3 FE in the presence and absence of 0.03 M CsClO_4 at 220 °C over time. Reproduced with permission.⁸ Copyright 2018, IOP Publishing.

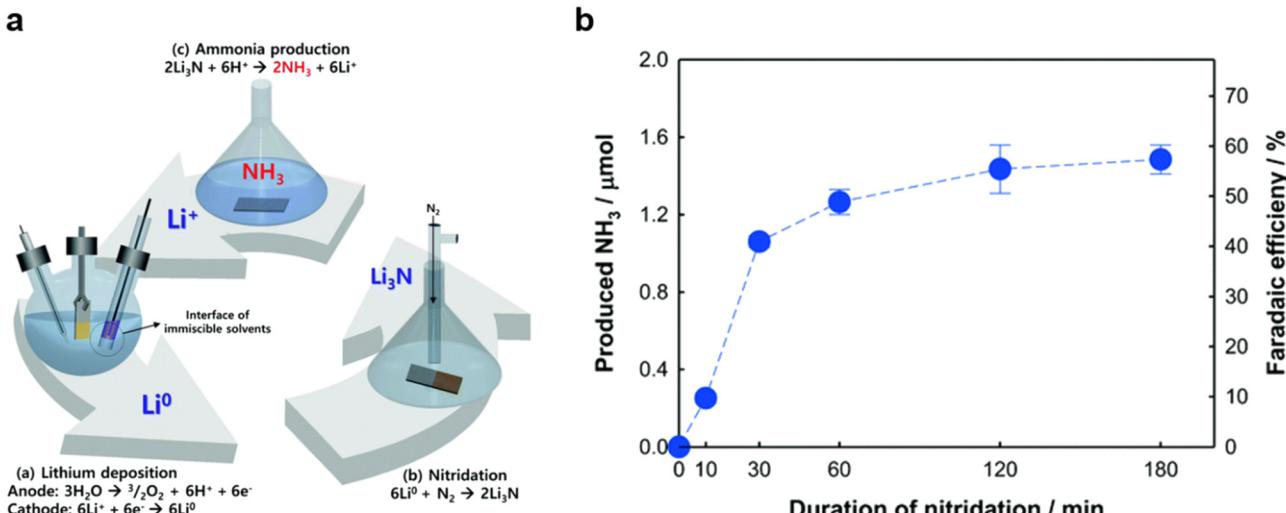


Fig. 13 (a) Schematic diagram and (b) NH_3 yield and FE of the biphasic hybrid catalytic system catalyzed by LiClO_4 (aq) and LiClO_4 -PMMA composite. Reproduced with permission.⁶⁶ Copyright 2019, Royal Society of Chemistry.

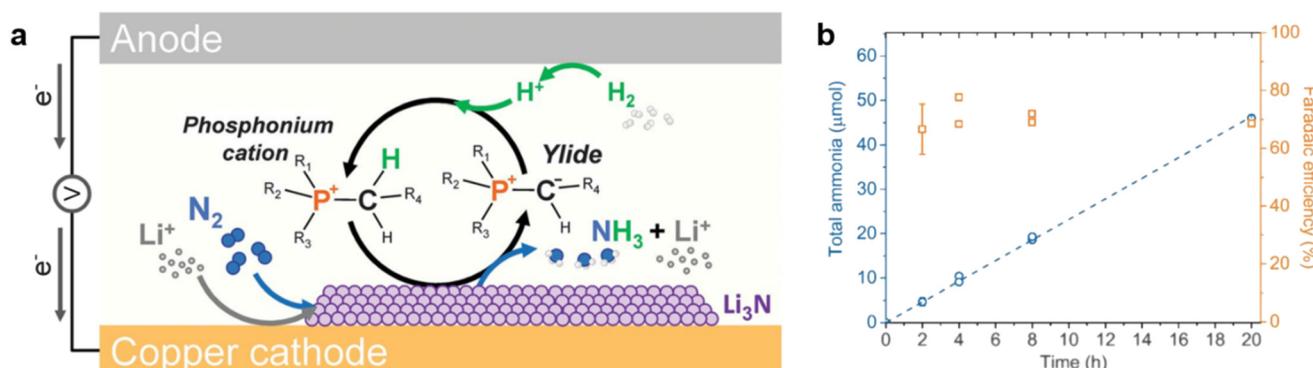


Fig. 14 (a) Schematic illustration of eN₂RR catalysis using a phosphonium salt; (b) NH_3 yield and FE as a function of time. Reproduced with permission.²⁴ Copyright 2021, American Association for the Advancement of Science.

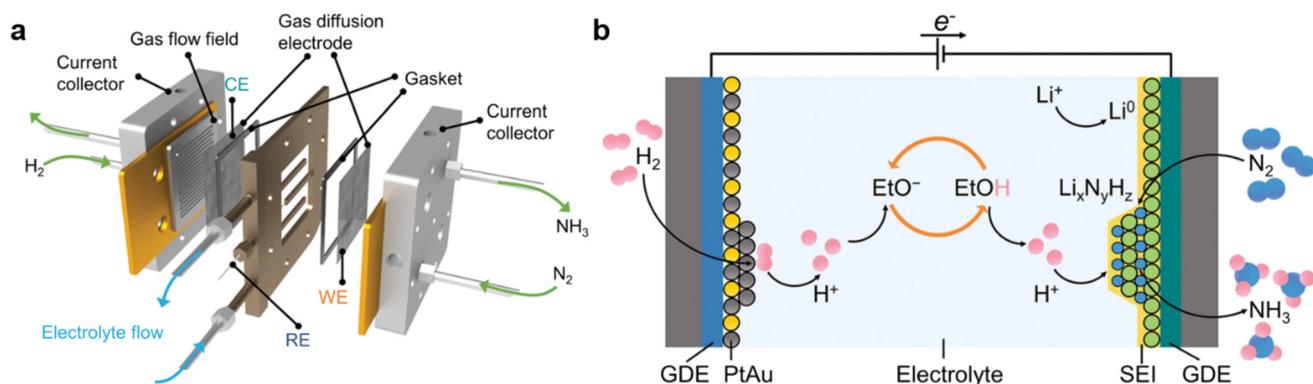


Fig. 15 (a) Expanded view of the continuous-flow electrolyzer configuration; (b) schematic process of the Li-NRR in a continuous-flow electrolyzer. Reproduced with permission.⁷² Copyright 2023, American Association for the Advancement of Science.

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