Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Affordable and Clean Energy

Chen et al., page 2242

Sodium-metal batteries are considered promising candidates for large-scale energy storage because of the abundant availability and low expense of this alkaline metal. However, sodium anodes come with stringent requirements for electrolytes as a result of sodium's high reactivity and propensity for dendritic growth. Employing electrolyte additives can be an efficient strategy for stabilizing sodium-metal anodes. Inspired by ion-solvent chemistry for sodium-metal batteries, Chen et al. report cation additives as a viable solution in this issue of Chem.

They propose three principles for designing cation additives and predict that lithium cations will stabilize dimethoxyethane electrolytes on sodium-metal anodes and resist the growth of sodium dendrites because of the electrostatic shield effect.

Good Health and Well-Being

Lu et al., page 2314

Chemodynamic therapy (CDT) based on Fenton or Fenton-like reactions for the generation of reactive oxygen species (ROS) in the presence of endogenous H₂O₂ provides an alternative opportunity for cancer therapy. However, an additional imaging function for real-time monitoring of ROS production to assess CDT performance in vivo has so far been missing.

In this issue of Chem, Lu et al. disclose an activatable therapeutic and monitoring system consisting of ultrathin manganese oxide (MnOx) nanosheets and semiconducting polymer nanoparticles (SPNs). It demonstrates the capability of ultrathin MnOx nanosheets to generate ¹O₂ by exploiting the elevated acidity in tumors as the trigger. The produced ¹O₂ can excite the thiophene-based SPNs to emit photons for near-infrared chemiluminescent imaging, which greatly amplifies the generation of ¹O₂.

Responsible Consumption and Production

Dasgupta et al., page 2364

With an ever-depleting reservoir of natural resources, researchers are trying to make contemporary chemistry more sustainable. Such efforts can include developing catalyzed reactions, moving on from
precious-metal catalysis to base-metal catalysis, or pursuing non-metal catalysis. In this issue of Chem, Dasgupta et al. report such a non-metal-catalyzed approach by employing borane catalysis for three different types of reactions, i.e., cyclopropanations (of oxygen heterocycles, indenes, and olefins), C–H bond insertions of nitrogen heterocycles, and ring opening of furans. The reactions exhibit very good regio- and stereoselectivity, and density functional theory calculations provide insights into the differences resulting in distinct reaction pathways.

**Industry, Innovation, and Infrastructure**

**Zhang et al., page 2420**

Molecular machines in living organisms serve a wide variety of purposes and can be driven by chemical fuels. However, efforts to replicate these systems and to create artificial rotary molecular motors have mainly used light to drive their response. In this issue of Chem, Zhang et al. use simple esterification chemistry to develop a chemically driven rotary molecular motor. The molecular motor is based on biaryl structures and can undergo a complete 360° directional rotation. The authors elucidate the chemistry underlying the stepwise rotational motion of the molecular motor, offering new insights into the design of more sophisticated artificial systems driven by chemical energy.

**Articles**

**Jin et al., page 2382**

Jin et al. demonstrate that molten salt can catalyze the synthesis of 2D layered transition-metal nitrides, which in turn are shown to exhibit excellent activity for electrocatalysis.

**Jiang et al., page 2335**

Jiang et al. report an asymmetric radical trifluoromethylation of cyclopropanols, which subsequently enables entry into pharmaceutically interesting enantiopure β-trifluoromethyl ketones.