

- ▶ The technology demonstrates a high specific capacity of over 700 mAh/g after 50 cycles, far exceeding conventional lithium-ion battery cathodes.
- ▶ The silica shell significantly improves cycling stability by mitigating the polysulfide shuttle which is the primary cause of capacity fade in Li-S batteries.
- ▶ The technology uses sulfur and silica, which are both abundant and significantly cheaper than cobalt and nickel used in traditional lithium-ion batteries. This significantly reduces manufacturing cost.
- ▶ The technology is based on a facile, room-temperature, two-step, wet chemical synthesis process that can be easily scale for industrial production.

SUGGESTED USES

- ▶ Electric vehicles
- ▶ Consumer electronics
- ▶ Grid-scale energy storage
- ▶ Light weight, high energy density batteries for drones

INVENTOR INFORMATION

- ▶ Please review [all inventions by Prof. Ozkan and his team](#) at UCR
- ▶ Please read [recent news coverage of the Ozkans](#) at UCR

RELATED MATERIALS

- ▶ [SiO2-coated sulfur particles with mildly reduced graphene oxide as a cathode material for lithium-sulfur batteries](#)

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,362,335	06/14/2022	2015-079

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