

Science

Lucky find in Materials Science lab at Bristol Myers Squibb

Extreme magnification reveals an unexpected shamrock shape during a study of the properties of a potential medicine, much to the delight of its Irish discoverer.

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Our stories / Science

Every day, Bristol Myers Squibb colleagues and scientists come across images that highlight the wonders of science and the cutting-edge work of the company’s research teams. This image resembling a shamrock comes from Principal Scientist Helen Hughes of the Global Product Development and Supply (GPS) site in Moreton, U.K.

Hughes is part of the Materials Science and Engineering (MSE) team in Drug Product Development. The team studies the material properties of investigational and marketed medicines. The physical characteristics of a drug – its active ingredient (API), as well as any excipients and intermediates added – can have a big impact on how a medicine performs, and how easy it is to manufacture.

The image is the result of a manufacturing process called spray dried dispersion (SDD). SDD is a relatively new technology that can improve an API’s bioavailability – its ability to be absorbed by the body. Like a bubble machine that turns soapy water into bubbles, SDD turns an API-polymer mixture into a fine mist and then quickly dries the tiny droplets into particles no bigger than specks of dust. The company has used this process in the manufacture of several investigational assets and is scaling it up for use in marketed products.

One day, Hughes was studying the resulting particles of a drug candidate with a scanning electron microscope (SEM). As she surveyed the landscape of tiny spheres, carefully noting characteristics such as size, shape and surface properties, one caught her eye. This one hadn’t fully formed, giving it the appearance of a shamrock.

“I have Irish roots, and this being the Northwest of England we’ve got a large Irish connection here. I took this image in February, and I waited until March 17 to send it to the team for St. Patrick’s Day,” she said. “This is quite unusual to see. It’s a chance of a lifetime to find a particle that’s formed in just this way.”

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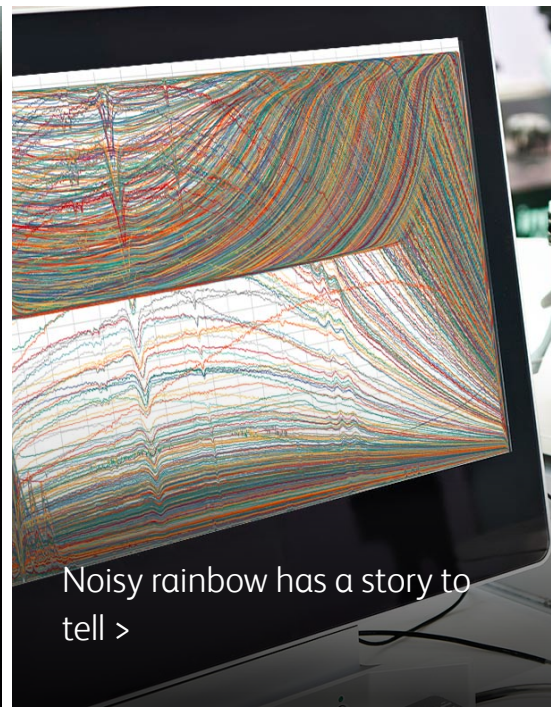
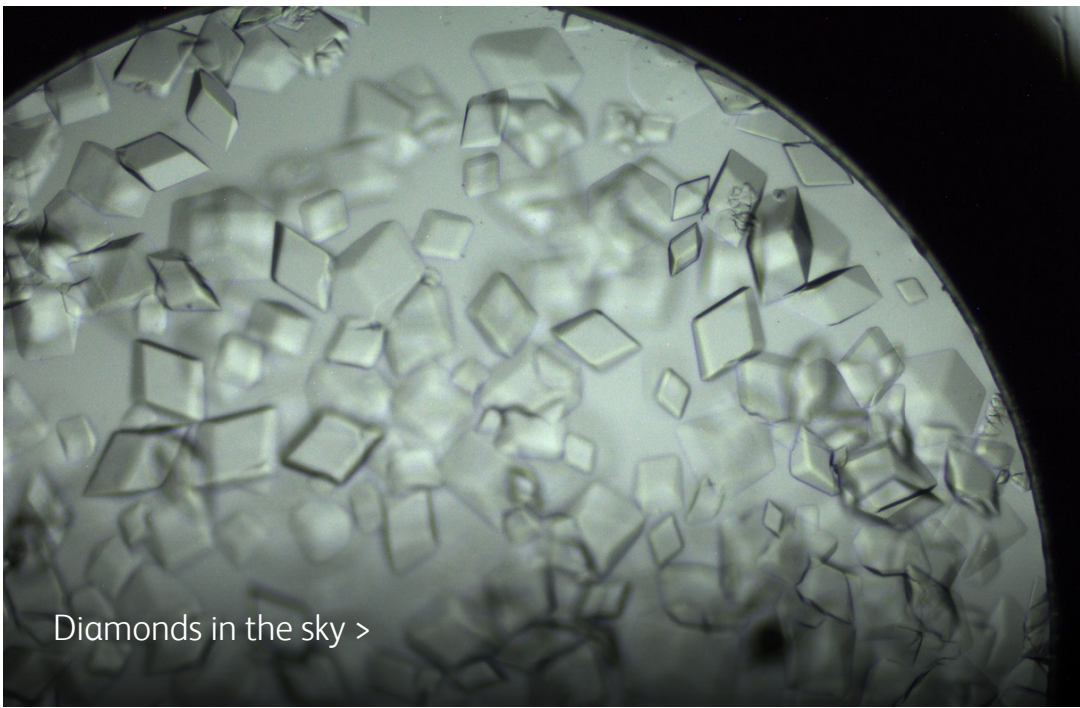
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