Sticky situation

The bacterium *Caulobacter crescentus* lives on surfaces in river streams, and human aqueducts. To keep from being washed away, it produces what scientists from IUB and Brown University reported in April is nature's strongest glue. IUB bacteriologist Yves Brun and his colleagues found the sugar-based glue could resist a force of about 70 newtons per square millimeter. That is equivalent to five tons per square inch — the weight of three or four cars hanging from a spot the size of a quarter. By contrast, commercial "super" glue can withstand 18 to 28 newtons per square millimeter.

Courtesy of Indiana University

Hypothetically, *C. crescentus's* glue could be mass produced and used for medical and engineering purposes, such as a biodegradable surgical adhesive. It's especially valuable because it works on wet surfaces. "The challenge will be to produce large quantities of this glue without it sticking to everything that is used to produce it," Brun said. "Using special mutants, we can isolate the glue on glass surfaces. We tried washing the glue off. It didn't work."