



MarketWatch Portfolio - Try it today.

More

Enter Symbol(s) or Keyword(s)

SEARCH

Welcome, please **sign in**.

My Portfolio • Community • VSE • Alerts

FRONT PAGE **NEWS & COMMENTARY**

Columnists First Take Special Reports Blogs Podcasts Industry News Economy & Politics Newsletters Obama's Challenge

LATEST NEWS N.Y. AG Cuomo subpoenas 14 debt settlement firms

New polymers change color when stressed

Last update: 1:00 p.m. EDT May 6, 2009

CHAMPAIGN, Ill., May 6, 2009 (UPI via COMTEX) -- U.S. scientists say they are developing polymers that, when overstressed, change color -- making them ideal for applications such as bridge coatings.

The force-sensitive polymers being developed at the University of Illinois contain mechanically active molecules called mechanophores. When pushed or pulled with a certain force, specific chemical reactions are triggered.

"This offers a new way to build function directly into synthetic materials," said Professor Nancy Sottos, who leads the research. "And it opens the door to creating mechanophores that can perform different responsive functions, including self-sensing and self-reinforcing, when stressed."

Sottos and her colleagues previously showed mechanical force could induce a reaction in mechanophore-linked polymers that were in solution. Now the researchers show they can perform a similar feat in a solid polymer.

Sottos said that in critical material systems, such as polymers used in aircraft components, self-sensing and self-reinforcing capabilities could be used to report damage and warn of potential component failure or even repair damage in early stages to avoid catastrophic failure.

"By coupling mechanical energy directly to structural response, the desired functionality could be precisely linked to the triggering stimulus," Sottos said.

The study that included research assistant Douglas Davis, along with Professors Paul Braun, Todd Martinez, Jeffrey Moore and Scott White, is reported in the journal Nature.

www.upi.com

Copyright 2009 by United Press International ■

Sponsored Links

2 Rules for Stomach Fat

Obey these 2 Simple Rules and Lose 10 lbs a Week effortlessly.

www.RachelRaysTips.com**"My Teeth Are Now White"**

Read the trick, discovered by a mom, to turn yellow teeth white.

www.TanyasTeeth.com**Artery Clearing Secret**

Hugh Downs reports on breakthrough from Nobel Prize Winning Doctor

www.bottomlinesecrets.com**Top stories**

22 minutes ago [Stocks-commodities correlation hints at mood swing](#)

11:36 AM today [Stress tests to reveal capital gaps at many banks](#)

10:47 AM today [US Stocks Knocked Back On Drop In Technology Shares](#)

Mutual Funds E-newsletter

The latest mutual fund news and commentary delivered to your inbox weekly.

Enter your email address

Sign up[Privacy policy](#)**MOST POPULAR**

READ E-MAILED EDITOR'S PICK

1. [Murdoch: "The worst is over"](#)
2. [U.S. futures higher on relief over GM, Wal-Mart](#)
3. [GM loses \\$6 billion; sales halved](#)
4. [Stocks shed most gains amid Fed talk of regulation](#)
5. [B. of A., Fifth Third pace financial sector rally](#)
6. [Fifth Third, Bank of America lead financials rally](#)
7. [Murdoch reiterates: Newspapers must charge online](#)
8. [Citigroup, Bank of America lead pre-open rally](#)
9. [ECB, Bank of England plan \\$150 billion bond boost](#)
10. [Stressed banks get 30 days to come up with plan](#)

[Get the Latest MarketWatch News >>](#)**PARTNER CENTER**

Switch to Scottrade, get up



Get 100 Free Trades. E*TRADE