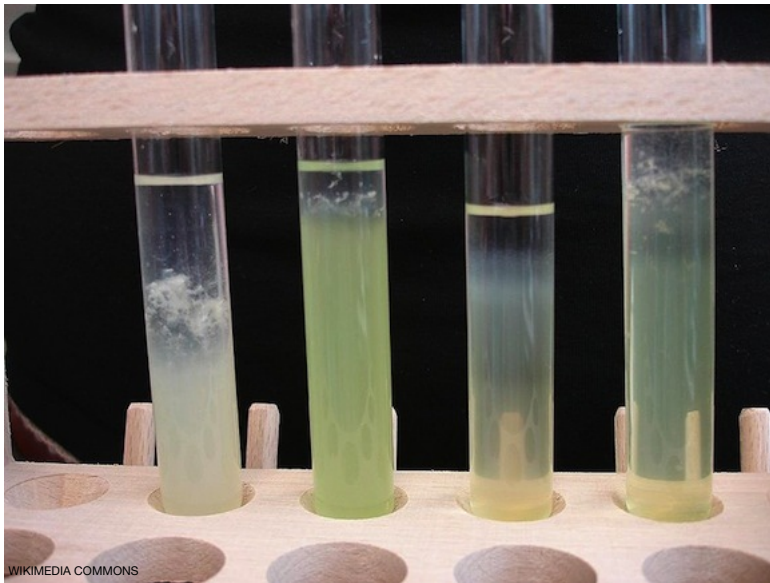


WEIRD STUFF (/CATEGORY/WEIRD) future tech (/tag/futuretech/)

Scientists encode Shakespeare's sonnets and more into DNA

 Rob Manuel
@8bitwiz

Jan 25, 2013 3:43 PM



Johnny Mnemonic carried eighty gigs of data

([http://en.wikipedia.org/wiki/Johnny_Mnemonic_\(film\)](http://en.wikipedia.org/wiki/Johnny_Mnemonic_(film))) in his brain and twice that with a doubler before his neurons blew a fuse. (Frankly, I wouldn't trust a cake recipe in Keanu Reeves' head without it coming out a little scrambled.) Scientists in the UK now have outdone science fiction by storing 90 petabytes of data onto 41 grams of DNA. That's enough information to fit onto 100 tape drive and last for thousands of years.

Finally, there's a way to store all my Star Trek: TNG slash fiction in one place.

A team of scientists led by Nick Goldman of the European Bioinformatics Institute at Hinxton, UK reported to Nature (<http://www.nature.com/news/synthetic-double-helix-faithfully-stores-shakespeare-s-sonnets-1.12279>) that they were able to encode onto DNA all 154 of Shakespeare's sonnets along with a 26-second audio clip of Martin Luther King's "I have a dream" speech, a copy of Watson and Crick's paper on the structure of DNA, a photo of the UK institute, and a file that describes how the data was converted onto the basic blocks of life.

As you may remember from your high school biology class, DNA stores genetic data through the use of repeating nucleotides. Cells take these sequences to create proteins that to do everything from keeping the cell running to replicating DNA. Scientists also know how to construct chains of DNA with the same nucleotides in any sort of sequence that they want.

Much like a computer uses ones and zeroes to store data, the Goldman's team used the sets of DNA nucleotides—adenosine, cytidine, guanosine, and thymidine—to recreate the data that they need. What's revolutionary about the technique behind this is that the team used all of the bases to create a richer structure to encode data on.

Writing data on DNA gives archivists the ability to store massive amounts of

information on something that won't deteriorate after years of wear and processing. Cost, right now, is the real limiting factor behind the technology with a megabyte of data costing \$12,400 to encode and \$220 just to read it back.

Still, Goldman says that costs will drop as the technology becomes cheaper. As Goldman also points out, these tiny strands of DNA may be the only things left standing in the case of a global apocalypse. That's a comforting thought for sure.

Get more GeekTech: [Twitter \(http://www.twitter.com/geektech\)](http://www.twitter.com/geektech) - [Facebook \(http://www.facebook.com/geektech\)](http://www.facebook.com/geektech) - [RSS \(http://www.techhive.com/column/geek-tech/index.rss\)](http://www.techhive.com/column/geek-tech/index.rss) | [Tip us off \(http://www.techhive.com/article/212336/got-a-geeky-news-tip-send-it-our-way\)](http://www.techhive.com/article/212336/got-a-geeky-news-tip-send-it-our-way)