

Cleanliness can stunt nanowire growth

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Silicon nanowires hold great promise, but the usual method of growing them is poorly understood, says a New York researcher.

Excessive cleanliness can actually stunt a nanowire's growth, reported J.B. Hannon and colleagues at the IBM Research Division, T. J. Watson Research Center in Yorktown Heights, N.Y.

The team watched the process in extremely clean conditions, and found that atoms of gold from the droplet can migrate over the surface of the growing nanowire, resulting in misshapen structures.

In their findings published in Nature online, the researchers suggest the presence of oxygen or perhaps contaminants found under normal manufacturing conditions might be necessary for good nanowire growth.

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