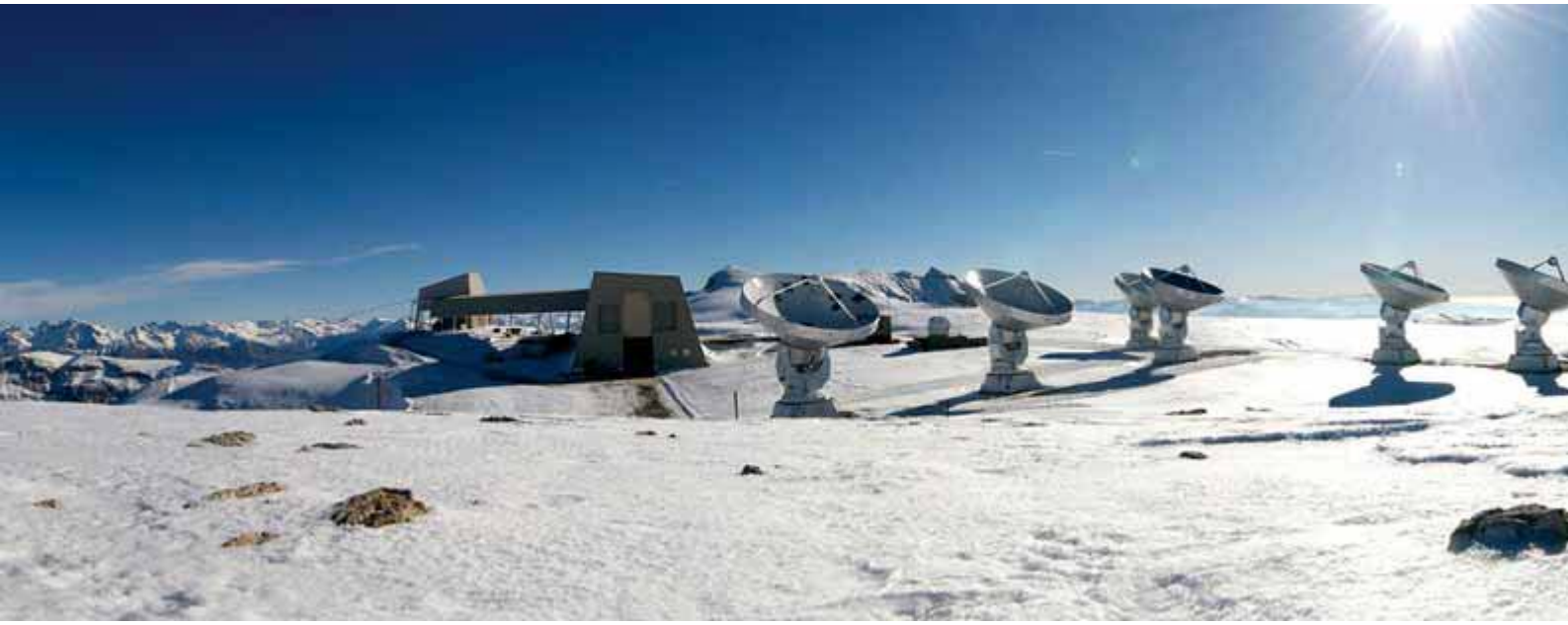

Plateau de Bure Interferometer in the French Alps detected glycoaldehyde in outer space.

IRAM / REBUS

You Can't Hide, Glycolaldehyde

To the great delight of earthlings who yearn for extraterrestrial companionship, glycolaldehyde ($C_2H_4O_2$) has just been detected in a star-forming region of our galaxy. The substance, you see, can easily react with other molecules to form ribose ($C_5H_{10}O_5$), the backbone of RNA. Experts believe RNA fulfilled the reproductive role of DNA in the early stages of life on Earth—and perhaps elsewhere.

Molecules in outer space betray their presence by emitting radio waves at specific frequencies. An international team of astronomers led by Maite T. Beltrán, of the University of Barcelona, aimed a French radio telescope at a coalescing disk of gas and dust called G31.41+0.31, which lies 26,000 light years away in the constellation Serpens, the Serpent. There they detected the telltale emissions of glycolaldehyde.

The molecule had already been espied in the center of our galaxy, where there is too much radiation for life to develop G31.41+0.31, by contrast, has lower radiation; there, amid an abundance of glycolaldehyde, stars are forming and planets could one day develop. And the same may be true of other planet-forming regions. But whether complex molecules such as $C_2H_4O_2$ can actually survive the chaotic process of planet formation remains unknown. (*Astrophysical Journal Letters*) —S.R.