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May 27, 2002 Volume 80, Number 21 CENEAR 80 21 p. 44 ISSN 0009-2347

Q1 structure: No mystery now

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No one knows where Q1 comes from, but at least its structure is no longer a question mark. Q1 is an organochlorine compound that has been detected worldwide, sometimes at high levels, in environmental samples such as Antarctic air, human milk, seabird eggs, and the blubber of marine mammals. It is said to be the first example of a natural organohalogen compound that bioaccumulates in humans. Analytical data suggested Q1 is a heptachlorobipyrrole derivative, and two teams independently set out to synthesize likely molecular suspects to pin down its structure. The teams--Walter Vetter and coworkers at Friedrich Schiller University in Jena, Germany, and Gordon W. Gribble's group at Dartmouth College--believe they have identified Q1 as the 1,2'-bipyrrole shown here. They say it is the first halogenated 1,2' -bipyrrole to be reported, and they believe it is naturally occurring. "Q1 is of environmental concern, even though its toxic potential has not been established," the researchers state in their joint paper [Angew. Chem. Int. Ed., 41, 1740 (2002)].



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