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- (71) **Applicant:** MKS INSTRUMENTS, INC. [US/US]; 2
Tech Drive, Suite 201, Andover, MA 01810 (US).
- (72) **Inventors:** PHILLIPS, Charles, Mark; 2 Lexington Park
Road, Sicklerville, NJ 08081 (US). MARSHIK-
GEURTS, Barbara; 7 Tree Top Way, Methuen, MA
01844 (US). KAMLET, Leonard, I.; 99 Elm Street, An-
dover, MA 01810 (US). SPARTZ, Martin, L.; 8 Gasek
Farms Road, Ellington, CT 06029 (US). SAPTARI, Vidi;
52 Plymouth St., Apt. 1, Cambridge, MA 02141 (US).
- (74) **Agent:** RASMUSSEN, Xin, Hu; Proskauer Rose, LLP,
One International Place, Boston, MA 02110 (US).

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(54) **Title:** METHOD AND APPARATUS FOR SILOXANE MEASUREMENTS IN A BIOGAS

(57) **Abstract:** A method is provided for monitoring one or more silicon-containing compounds present in a biogas, in particular siloxane and trimethyl-silanol. The method includes generating a first absorption spectrum based on a ratio of a first spectral measurement and a second spectral measurement. The first spectral measurement is from a non-absorptive gas having substantially no infrared absorptions in a specified wavelength range of interest and the second spectral measurement is from a sample gas comprising the biogas. The method includes generating at least one surrogate absorption spectrum based on, at least, individual absorption spectrum for each of a subset of one or more silicon-containing compounds selected from a larger set of known silicon-containing compounds with known concentrations. A total concentration of the one or more silicon-containing compounds in the biogas can be calculated based on the first absorption spectrum and the at least one surrogate absorption spectrum.



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