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(21) International Application Number: PCT/US95/16129 (22) International Filing Date: 13 December 1995 (13.12.95) (30) Priority Data: 08/354,976 ✓ 13 December 1994 (13.12.94) US 08/567,613 ✓ 5 December 1995 (05.12.95) US (71) Applicant: EXXON RESEARCH & ENGINEERING COMPANY [US/US]; P.O. Box 390, 180 Park Avenue, Florham Park, NJ 07932-0390 (US). (72) Inventors: PERRY, Bruce, N.; 7 Barley Sheaf Road, Flemington, NJ 08822 (US). BROWN, James, M.; 31 Lane Drive, Flemington, NJ 08822 (US). (74) Agents: SIMON, Jay et al.; Exxon Research and Engineering Company, P.O. Box 390, Florham Park, NJ 07932-0390 (US).		(81) Designated States: AU, CA, JP, <u>SG</u> , European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>
(54) Title: NON LINEAR MULTIVARIATE INFRARED ANALYSIS METHOD (57) Abstract Research octane number (RON), or other physical or chemical properties or composition data, of a test sample is obtained by infrared spectral analysis of the test sample and a calibration sample set. The determination of the above properties is improved by using the spectrum of the test sample, a linear prediction model, and a nonlinear correction to the linear prediction model.		