Submission
"Incorporation of water-derived hydrogen into methane during artificial maturation of kerogen under hydrothermal conditions"

Results produced by MaRS (Machine Learning Reference Service)

Reference checking is done for journal citations. If the journal citation has a Scopus or CrossRef link, it has been validated. If 'Not validated' is displayed, the citation could not be validated and is probably not a journal citation.

Close

Summarized Results

HIPPIE-DIPPIE_v5e4_clean.docx Download File

Total Citations	**118**
Validated and Linked	**102**
Not Validated	**16**

#	Citation	Validation	Scopus	CrossRef
1	Alexander, R., Kagi, R.I., Larcher, A.V., 1984. Clay catalysis of alkyl hydrogen exchange reactions—reaction mechanisms. Organic Geochemistry 6, 755–760.	Validated	Scopus	CrossRef
2	Baskin, D.K., 1997. Atomic H/C ratio of kerogen as an estimate of thermal maturity and organic matter conversion. AAPG bulletin 81, 1437–1450.	Validated	Scopus	
3	Beaudry, P., Stefánsson, A., Fiebig, J., Rhim, J.H., Ono, S., 2021. High temperature generation and equilibration of methane in terrestrial geothermal systems: Evidence from clumped isotopologues. Geochimica et Cosmochimica Acta 309, 209–234.	Validated	Scopus	CrossRef
4	Berner, U., Faber, E., Scheeder, G., Panten, D., 1995. Primary cracking of algal and landplant kerogens: kinetic models of isotope variations in methane, ethane and propane. Chemical Geology 126, 233–245.	Validated	Scopus	CrossRef
5	Burnham, A.K., 2019. Kinetic models of vitrinite, kerogen, and bitumen reflectance. Organic Geochemistry 131, 50–59.	Validated	Scopus	CrossRef
6	Cardneaux, A., Nunn, J.A., 2013. Estimates of maturation and TOC from log data in the Eagle Ford Shale, Maverick Basin of South Texas. Gulf Coast Association of Geological Societies Transactions 63, 111–124.	Not Validated		
7	Cardneaux, A.P., 2012. Mapping of the oil window in the Eagle Ford shale play of southwest Texas using thermal modeling and log overlay analysis (Masters Thesis). Louisiana State University.	Not Validated		
8	Clayton, C., 2003. Hydrogen isotope systematics of thermally generated natural gas. International Meeting on Organic Geochemistry, 21st, Kraków, Poland, Book Abstr. Part I 51–52.	Not Validated		
9	Connan, J., Cassou, A.M., 1980. Properties of gases and petroleum liquids derived from terrestrial kerogen at various maturation levels. Geochimica et Cosmochimica Acta 44, 1–23.	Validated	Scopus	CrossRef
10	Cooles, G., Mackenzie, A., Quigley, T., 1986. Calculation of petroleum masses generated and expelled from source rocks. Organic Geochemistry 10, 235–245.	Validated	Scopus	CrossRef

#	Citation	Validation	Scopus	CrossRef
11	Dawson, D., Grice, K., Alexander, R., 2005. Effect of maturation on the indigenous δD signatures of individual hydrocarbons in sediments and crude oils from the Perth Basin (Western Australia). Organic Geochemistry 36, 95–104.	Validated	Scopus	CrossRef
12	Dibeler, V.H., Mohler, F.L., 1950. Mass spectra of the deuteromethanes. J. Research Nat. Bur. Standards 45, 441–444.	Validated		CrossRef
13	Dieckmann, V., Horsfield, B., Schenk, H.J., 2000. Heating rate dependency of petroleum-forming reactions: implications for compositional kinetic predictions. Organic Geochemistry 31, 1333–1348.	Validated	Scopus	CrossRef
14	Dong, G., Xie, H., Formolo, M., Lawson, M., Sessions, A., Eiler, J., 2021. Clumped isotope effects of thermogenic methane formation: insights from pyrolysis of hydrocarbons. Geochimica et Cosmochimica Acta. doi:10.1016/j.gca.2021.03.009	Validated	Scopus	CrossRef
15	Douglas, P.M., Stolper, D.A., Eiler, J.M., Sessions, A.L., Lawson, M., Shuai, Y., Bishop, A., Podlaha, O.G., Ferreira, A.A., Neto, E.V.S., others, 2017. Methane clumped isotopes: Progress and potential for a new isotopic tracer. Organic Geochemistry 113, 262–282.	Validated	Scopus	CrossRef
16	Eichhubl, P., Boles, J.R., 2000. Rates of fluid flow in fault systems; evidence for episodic rapid fluid flow in the Miocene Monterey Formation, coastal California. American Journal of Science 300, 571.	Validated	Scopus	CrossRef
17	Eldrett, J.S., Ma, C., Bergman, S.C., Lutz, B., Gregory, F.J., Dodsworth, P., Phipps, M., Hardas, P., Minisini, D., Ozkan, A., Ramezani, J., Bowring, S.A., Kamo, S.L., Ferguson, K., Macaulay, C., Kelly, A.E., 2015. An astronomically calibrated stratigraphy of the Cenomanian, Turonian and earliest Coniacian from the Cretaceous Western Interior Seaway, USA: Implications for global chronostratigraphy. Cretaceous Research 56, 316–344.	Validated	Scopus	CrossRef
18	Eldrett, J.S., Minisini, D., Bergman, S.C., 2014. Decoupling of the carbon cycle during Ocean Anoxic Event 2. Geology 42, 567–570.	Validated	Scopus	CrossRef
19	Fjellanger, E., Kontorovich, A.E., Barboza, S.A., Burshtein, L.M., Hardy, M.J., Livshits, V.R., 2010. Charging the giant gas fields of the NW Siberia basin, in: Vining, B.A., Pickering, S.C. (Eds.), Petroleum Geology: From Mature Basins to New Frontiers – Proceedings of the 7th Petroleum Geology Conference. Geological Society of London, pp. 659–668.	Validated	Scopus	CrossRef
20	French, K.L., Birdwell, J.E., Lewan, M.D., 2020. Trends in thermal maturity indicators for the organic sulfur-rich Eagle Ford Shale. Marine and Petroleum Geology 118, 104459.	Validated	Scopus	CrossRef
21	Freund, H., Walters, C.C., Kelemen, S.R., Siskin, M., Gorbaty, M.L., Curry, D.J., Bence, A.E., 2007. Predicting oil and gas compositional yields via chemical structure–chemical yield modeling (CS-CYM): Part 1 – Concepts and implementation. Organic Geochemistry 38, 288–305.	Validated	Scopus	CrossRef
22	Giunta, T., Young, E.D., Warr, O., Kohl, I., Ash, J.L., Martini, A., Mundle, S.O., Rumble, D., Pérez-Rodríguez, I., Wasley, M., LaRowe, D.E., Gilbert, A., Sherwood Lollar, B., 2019. Methane sources and sinks in continental sedimentary systems: New insights from paired clumped isotopologues 13CH3D and 12CH2D2. Geochimica et Cosmochimica Acta 245, 327–351.	Validated	Scopus	CrossRef
23	Glasoe, P.K., Long, F.A., 1960. Use of glass electrodes to measure acidites in deuterium oxide. The Journal of Physical Chemistry 64, 188–190.	Validated	Scopus	CrossRef

#	Citation	Validation	Scopus	CrossRef
24	Golden, J.T., Andersen, R.A., Bergman, R.G., 2001. Exceptionally low-temperature carbon–hydrogen/carbon–deuterium exchange reactions of organic and organometallic compounds catalyzed by the Cp*(PMe_3)IrH($ClCH_2Cl$)+ cation. Journal of the American Chemical Society 123, 5837–5838.	Validated	Scopus	CrossRef
25	Grozeva, N.G., Klein, F., Seewald, J.S., Sylva, S.P., 2020. Chemical and isotopic analyses of hydrocarbon-bearing fluid inclusions in olivine-rich rocks. Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences 378, 20180431.	Validated	Scopus	CrossRef
26	Gupta, I., Jernigen, J., Curtis, M., Rai, C., Sondergeld, C., 2018. Water-wet or oil-wet: Is it really that simple in shales? Petrophysics - The SPWLA Journal of Formation Evaluation and Reservoir Description 59, 308–317.	Validated	Scopus	CrossRef
27	Hantschel, T., Kauerauf, A.I., 2009. Petroleum Generation, in: Fundamentals of Basin and Petroleum Systems Modeling. Springer Berlin Heidelberg, Berlin, Heidelberg, pp. 151–198.	Validated		CrossRef
28	Harbor, R.L., 2011. Facies characterization and stratigraphic architecture of organic-rich mudrocks, Upper Cretaceous Eagle Ford Formation, South Texas (Masters Thesis). University of Texas at Austin.	Not Validated		
29	He, K., Zhang, S., Mi, J., Fang, Y., Zhang, W., 2019. Carbon and hydrogen isotope fractionation for methane from non-isothermal pyrolysis of oil in anhydrous and hydrothermal conditions. Energy Exploration & Exploitation 37, 1558–1576.	Validated	Scopus	CrossRef
30	Helgeson, H.C., Knox, A.M., Owens, C.E., Shock, E.L., 1993. Petroleum, oil field waters, and authigenic mineral assemblages Are they in metastable equilibrium in hydrocarbon reservoirs. Geochimica et Cosmochimica Acta 57, 3295–3339.	Validated	Scopus	CrossRef
31	Helgeson, H.C., Richard, L., McKenzie, W.F., Norton, D.L., Schmitt, A., 2009. A chemical and thermodynamic model of oil generation in hydrocarbon source rocks. Geochimica et Cosmochimica Acta 73, 594–695.	Validated	Scopus	CrossRef
32	Hentz, T.F., Ruppel, S.C., 2010. Regional lithostratigraphy of the Eagle Ford Shale: Maverick Basin to East Texas Basin. Gulf Coast Association of Geological Societies Transactions 60, 325–337.	Not Validated		
33	Hindle, A.D., 1997. Petroleum Migration Pathways and Charge Concentration: A Three-Dimensional Model. AAPG Bulletin 81, 1451–1481.	Validated	Scopus	
34	Hoering, T., 1984. Thermal reactions of kerogen with added water, heavy water and pure organic substances. Organic Geochemistry 5, 267–278.	Validated	Scopus	CrossRef
35	Huizinga, B.J., Tannenbaum, E., Kaplan, I.R., 1987. The role of minerals in the thermal alteration of organic matter—IV. Generation of n-alkanes, acyclic isoprenoids, and alkenes in laboratory experiments. Geochimica et Cosmochimica Acta 51, 1083–1097.	Validated	Scopus	CrossRef
36	Hunt, J.M., 1996. Petroleum geochemistry and geology, 2nd ed. WH Freeman San Francisco.	Not Validated		
37	IHS Markit Well Database, 2019. . IHS Markit.	Not Validated		
38	Jenden, P.D., Drazan, D.J., Kaplan, I.R., 1993. Mixing of thermogenic natural gases in northern Appalachian basin. AAPG Bulletin 77, 980–998.	Validated	Scopus	
39	Jung, B., Garven, G., Boles, J.R., 2015. The geodynamics of faults and petroleum migration in the Los Angeles basin, California. American Journal of Science 315, 412–459.	Validated	Scopus	CrossRef
40	Kazak, E.S., Kazak, A.V., 2019. A novel laboratory method for reliable water content determination of shale reservoir rocks. Journal of Petroleum Science and Engineering 183, 106301.	Validated	Scopus	CrossRef

#	Citation	Validation	Scopus	CrossRef
41	Klein, F., Grozeva, N.G., Seewald, J.S., 2019. Abiotic methane synthesis and serpentinization in olivine-hosted fluid inclusions. Proceedings of the National Academy of Sciences 116, 17666.	Validated	Scopus	CrossRef
42	Koepp, M., 1978. D/H isotope exchange reaction between petroleum and water: a contributory determinant for D/H-isotope ratios in crude oils, in: The Fourth International Conference, Geochronology, Cosmochronology, Isotope Geology USGS Open-File Report 78-701. pp. 221–222.	Not Validated		
43	Labidi, J., Young, E.D., Giunta, T., Kohl, I.E., Seewald, J., Tang, H., Lilley, M.D., Früh-Green, G.L., 2020. Methane thermometry in deep-sea hydrothermal systems: Evidence for re-ordering of doubly-substituted isotopologues during fluid cooling. Geochimica et Cosmochimica Acta 288, 248–261.	Validated	Scopus	CrossRef
44	Laplante, R.E., 1974. Hydrocarbon generation in Gulf Coast Tertiary sediments. AAPG Bulletin 58, 1281–1289.	Not Validated		
45	Lécluse, C., Robert, F., 1994. Hydrogen isotope exchange reaction rates: Origin of water in the inner solar system. Geochimica et Cosmochimica Acta 58, 2927–2939.	Validated	Scopus	CrossRef
46	Leif, R.N., Simoneit, B.R., 2000. The role of alkenes produced during hydrous pyrolysis of a shale. Organic Geochemistry 31, 1189–1208.	Validated	Scopus	CrossRef
47	Lewan, M., 1992. Water as a source of hydrogen and oxygen in petroleum formation by hydrous pyrolysis. Am. Chem. Soc. Div. Fuel Chem 37, 1643–1649.	Not Validated		
48	Lewan, M., 1997. Experiments on the role of water in petroleum formation. Geochimica et Cosmochimica Acta 61, 3691–3723.	Validated	Scopus	CrossRef
49	Lewan, M.D., Roy, S., 2011. Role of water in hydrocarbon generation from Type-I kerogen in Mahogany oil shale of the Green River Formation. Organic Geochemistry 42, 31–41.	Validated	Scopus	CrossRef
50	Lis, G.P., Schimmelmann, A., Mastalerz, M., 2006. D/H ratios and hydrogen exchangeability of type-II kerogens with increasing thermal maturity. Organic Geochemistry 37, 342–353.	Validated	Scopus	CrossRef
51	Lloyd, M.K., Eldridge, D.L., Stolper, D.A., 2021. Clumped 13CH3D and 12CH2D2 compositions of methyl groups from wood and synthetic monomers: Methods, experimental and theoretical calibrations, and initial results. Geochimica et Cosmochimica Acta 297, 233–275.	Validated	Scopus	CrossRef
52	Lu, S., Wang, M., Xue, H., Li, J., Chen, F., Xu, Q., 2011. The impact of aqueous medium on gas yields and kinetic behaviors of hydrogen isotope fractionation during organic matter thermal degradation. Acta Geologica Sinica - English Edition 85, 1466–1477.	Validated	Scopus	CrossRef
53	Lu, S.-F., Feng, G.-Q., Shao, M.-L., Li, J.-J., Xue, H.-T., Wang, M., Chen, F.-W., Li, W.-B., Pang, X.-T., 2021. Kinetics and fractionation of hydrogen isotopes during gas formation from representative functional groups. Petroleum Science 18, 1021–1032.	Validated	Scopus	CrossRef
54	Mackenzie, A.S., Leythaeuser, D., Schaefer, R.G., Bjorøy, M., 1983. Expulsion of petroleum hydrocarbons from shale source rocks. Nature 301, 506–509.	Validated	Scopus	CrossRef
55	Maslen, E., Grice, K., Dawson, D., Wang, S., Horsfield, B., 2012. Stable hydrogen isotopes of isoprenoids and n-alkanes as a proxy for estimating the thermal history of sediments through geological time:, in: Harris, N.B., Peters, K.E. (Eds.), Analyzing the Thermal History of Sedimentary Basins: Methods and Case Studies. SEPM Society for Sedimentary Geology, pp. 29–43.	Validated		CrossRef
56	Mohler, F.L., Dibeler, V.H., Quinn, E., 1958. Redetermination of mass spectra of deuteromethanes. Journal of Research of the National Bureau of Standards 61, 171–172.	Validated		CrossRef

#	Citation	Validation	Scopus	CrossRef
57	Muscio, G.P.A., Horsfield, B., Welte, D.H., 1994. Occurrence of thermogenic gas in the immature zone—implications from the Bakken in-source reservoir system. Organic Geochemistry 22, 461–476.	Validated	Scopus	CrossRef
58	Ni, Y., Liao, F., Dai, J., Zou, C., Zhu, G., Zhang, B., Liu, Q., 2012. Using carbon and hydrogen isotopes to quantify gas maturity, formation temperature, and formation age — specific applications for gas fields from the Tarim basin, China. Energy Exploration & Exploitation 30, 273–293.	Validated	Scopus	CrossRef
59	Ni, Y., Ma, Q., Ellis, G.S., Dai, J., Katz, B., Zhang, S., Tang, Y., 2011. Fundamental studies on kinetic isotope effect (KIE) of hydrogen isotope fractionation in natural gas systems. Geochimica et Cosmochimica Acta 75, 2696–2707.	Validated	Scopus	CrossRef
60	Passey, Q.R., Bohacs, K., Esch, W.L., Klimentidis, R., Sinha, S., 2010. From Oil-Prone Source Rock to Gas-Producing Shale Reservoir - Geologic and Petrophysical Characterization of Unconventional Shale Gas Reservoirs, in: SPE-131350-MS. Presented at the International Oil and Gas Conference and Exhibition in China, Society of Petroleum Engineers, Beijing, China, p. 29.	Validated	Scopus	
61	Pepper, A.S., Corvi, P.J., 1995. Simple kinetic models of petroleum formation. Part I: oil and gas generation from kerogen. Marine and Petroleum Geology 12, 291–319.	Validated	Scopus	CrossRef
62	Price, L.C., 1994. Metamorphic free-for-all. Nature 370, 253–254.	Validated	Scopus	CrossRef
63	Price, L.C., 2001. A possible deep-basin-high-rank gas machine via water-organic-matter redox reactions, in: Dyman, T.S., Kuuskraa, V.A. (Eds.), Geologic Studies of Deep Natural Gas Resources, Digital Data Series. U. S. Geological Survey.	Not Validated		
64	Purcell, L.P., Rashid, M.A., Hardy, I.A., 1979. Geochemical characteristics of sedimentary rocks in Scotian basin. AAPG Bulletin 63, 87–105.	Validated	Scopus	
65	Ramaswamy, G., 2002. A field evidence for mineral-catalyzed formation of gas during coal maturation. Oil & gas journal 100, 32–36.	Validated	Scopus	
66	Reeves, E.P., Seewald, J.S., Sylva, S.P., 2012. Hydrogen isotope exchange between \emphn-alkanes and water under hydrothermal conditions. Geochimica et Cosmochimica Acta 77, 582–599.	Validated	Scopus	CrossRef
67	Rowe, D., Muehlenbachs, K., 1999. Low-temperature thermal generation of hydrocarbon gases in shallow shales. Nature 398, 61–63.	Validated	Scopus	CrossRef
68	Sackett, W.M., 1978. Carbon and hydrogen isotope effects during the thermocatalytic production of hydrocarbons in laboratory simulation experiments. Geochimica et Cosmochimica Acta 42, 571–580.	Validated	Scopus	CrossRef
69	Sackett, W.M., Conkright, M., 1997. Summary and re-evaluation of the high-temperature isotope geochemistry of methane. Geochimica et Cosmochimica Acta 61, 1941–1952.	Validated	Scopus	CrossRef
70	Sandvik, E.I., Young, W.A., Curry, D.J., 1992. Expulsion from hydrocarbon sources: the role of organic absorption. Organic Geochemistry 19, 77–87.	Validated	Scopus	CrossRef
71	Sattler, A., 2018. Hydrogen/Deuterium (H/D) exchange catalysis in alkanes. ACS Catalysis 8, 2296–2312.	Validated	Scopus	CrossRef
72	Saxena, S.C., Saxena, V.K., 1970. Thermal conductivity data for hydrogen and deuterium in the range 100-1100 degrees C. Journal of Physics A: General Physics 3, 309–320.	Validated	Scopus	CrossRef
73	Schenk, H.J., Dieckmann, V., 2004. Prediction of petroleum formation: the influence of laboratory heating rates on kinetic parameters and geological extrapolations. Marine and Petroleum Geology 21, 79–95.	Validated	Scopus	CrossRef

#	Citation	Validation	Scopus	CrossRef
74	Schimmelmann, A., Boudou, J.-P., Lewan, M.D., Wintsch, R.P., 2001. Experimental controls on D/H and \textsuperscript13C/\textsuperscript12C ratios of kerogen, bitumen and oil during hydrous pyrolysis. Organic Geochemistry 32, 1009–1018.	Validated	Scopus	CrossRef
75	Schimmelmann, A., Lewan, M.D., Wintsch, R.P., 1999. D/H isotope ratios of kerogen, bitumen, oil, and water in hydrous pyrolysis of source rocks containing kerogen types I, II, IIS, and III. Geochimica et Cosmochimica Acta 63, 3751–3766.	Validated	Scopus	CrossRef
76	Schimmelmann, A., Sessions, A.L., Mastalerz, M., 2006. Hydrogen isotopic (D/H) composition of organic matter during diagenesis and thermal maturation. Annual Review of Earth and Planetary Sciences 34, 501–533.	Validated	Scopus	CrossRef
77	Schmoker, J.W., 1994. Volumetric calculation of hydrocarbons generated, in: Magoon, L.B., Dow, W.G. (Eds.), The Petroleum System---from Source to Trap, AAPG Memoir. pp. 323–326.	Validated	Scopus	
78	Seewald, J.S., 1994. Evidence for metastable equilibrium between hydrocarbons under hydrothermal conditions. Nature 370, 285–287.	Validated	Scopus	CrossRef
79	Seewald, J.S., 2001. Aqueous geochemistry of low molecular weight hydrocarbons at elevated temperatures and pressures: constraints from mineral buffered laboratory experiments. Geochimica et Cosmochimica Acta 65, 1641–1664.	Validated	Scopus	CrossRef
80	Seewald, J.S., 2003. Organic–inorganic interactions in petroleum-producing sedimentary basins. Nature 426, 327–333.	Validated	Scopus	CrossRef
81	Seewald, J.S., Benitez-Nelson, B.C., Whelan, J.K., 1998. Laboratory and theoretical constraints on the generation and composition of natural gas. Geochimica et Cosmochimica Acta 62, 1599–1617.	Validated	Scopus	CrossRef
82	Sessions, A.L., 2016. Factors controlling the deuterium contents of sedimentary hydrocarbons. Organic Geochemistry 96, 43–64.	Validated	Scopus	CrossRef
83	Sessions, A.L., Sylva, S.P., Summons, R.E., Hayes, J.M., 2004. Isotopic exchange of carbon-bound hydrogen over geologic timescales. Geochimica et Cosmochimica Acta 68, 1545–1559.	Validated	Scopus	CrossRef
84	Seyfried, W.E., Jr., Janecky, D.R., Berndt, M.E., 1987. Rocking autoclaves for hydrothermal experiments, II. The flexible reaction-cell system. Hydrothermal Experimental Techniques 9, 216–239.	Not Validated		
85	Shock, E.L., Helgeson, H.C., 1990. Calculation of the thermodynamic and transport properties of aqueous species at high pressures and temperatures: Standard partial molal properties of organic species. Geochimica et Cosmochimica Acta 54, 915–945.	Validated	Scopus	CrossRef
86	Shock, E.L., Helgeson, H.C., Sverjensky, D.A., 1989. Calculation of the thermodynamic and transport properties of aqueous species at high pressures and temperatures: Standard partial molal properties of inorganic neutral species. Geochimica et Cosmochimica Acta 53, 2157–2183.	Validated	Scopus	CrossRef
87	Shuai, Y., Etiope, G., Zhang, S., Douglas, P.M., Huang, L., Eiler, J.M., 2018. Methane clumped isotopes in the Songliao Basin (China): New insights into abiotic vs. biotic hydrocarbon formation. Earth and Planetary Science Letters 482, 213–221.	Validated	Scopus	CrossRef
88	Smith, J., Rigby, D., Gould, K., Hart, G., Hargraves, A., 1985. An isotopic study of hydrocarbon generation processes. Organic Geochemistry 8, 341–347.	Validated	Scopus	CrossRef

#	Citation	Validation	Scopus	CrossRef
89	Snowdon, L., 1980. Resinite—A potential petroleum source in the upper Cretaceous/Tertiary of the Beaufort-Mackenzie Basin, in: Miall, A.D. (Ed.), Facts and Principles of World Petroleum Occurrence, CSPG Special Publications. pp. 509–521.	Validated	Scopus	
90	Snowdon, L.R., 1979. Errors in extrapolation of experimental kinetic parameters to organic geochemical systems: Geologic notes. AAPG Bulletin 63, 1128–1134.	Validated	Scopus	
91	Stahl, W.J., 1977. Carbon and nitrogen isotopes in hydrocarbon research and exploration. Chemical Geology 20, 121–149.	Validated	Scopus	CrossRef
92	Stainforth, J.G., 2009. Practical kinetic modeling of petroleum generation and expulsion. Thematic Set on Basin Modeling Perspectives 26, 552–572.	Validated	Scopus	CrossRef
93	Stolper, D., Martini, A., Clog, M., Douglas, P., Shusta, S., Valentine, D., Sessions, A., Eiler, J., 2015. Distinguishing and understanding thermogenic and biogenic sources of methane using multiply substituted isotopologues. Geochimica et Cosmochimica Acta 161, 219–247.	Validated	Scopus	CrossRef
94	Stolper, D.A., Lawson, M., Davis, C.L., Ferreira, A.A., Santos Neto, E.V., Ellis, G.S., Lewan, M.D., Martini, A.M., Tang, Y., Schoell, M., Sessions, A.L., Eiler, J.M., 2014. Formation temperatures of thermogenic and biogenic methane. Science 344, 1500–1503.	Validated	Scopus	CrossRef
95	Sun, X., Zhang, T., Sun, Y., Milliken, K.L., Sun, D., 2016. Geochemical evidence of organic matter source input and depositional environments in the lower and upper Eagle Ford Formation, south Texas. Organic Geochemistry 98, 66–81.	Validated	Scopus	CrossRef
96	Sweeney, J.J., Burnham, A.K., 1990. Evaluation of a simple model of vitrinite reflectance based on chemical kinetics. AAPG Bulletin 74, 1559–1570.	Validated	Scopus	
97	Tang, Y., Huang, Y., Ellis, G.S., Wang, Y., Kralert, P.G., Gillaizeau, B., Ma, Q., Hwang, R., 2005. A kinetic model for thermally induced hydrogen and carbon isotope fractionation of individual n-alkanes in crude oil. Geochimica et Cosmochimica Acta 69, 4505–4520.	Validated	Scopus	CrossRef
98	Thiagarajan, N., Xie, H., Ponton, C., Kitchen, N., Peterson, B., Lawson, M., Formolo, M., Xiao, Y., Eiler, J., 2020. Isotopic evidence for quasi-equilibrium chemistry in thermally mature natural gases. Proceedings of the National Academy of Sciences 117, 3989–3995.	Validated	Scopus	CrossRef
99	Tian, Y., Ayers, W.B., McCain Jr, D., 2013. The Eagle Ford Shale play, south Texas: regional variations in fluid types, hydrocarbon production and reservoir properties, in: IPTC 2013: International Petroleum Technology Conference. European Association of Geoscientists & Engineers, p. IPTC 16808.	Validated	Scopus	
100	Tissot, B., 2003. Preliminary data on the mechanisms and kinetics of the formation of petroleum in sediments. computer simulation of a reaction flowsheet. Oil & Gas Science and Technology - Rev. IFP 58, 183–202.	Validated	Scopus	CrossRef
101	Tissot, B., Espitalié, J., 1975. L'evolution thermique de la matière organique des sédiments : applications d'une simulation mathématique. Potentiel pétrolier des bassins sédimentaires de reconstitution de l'histoire thermique des sédiments. Rev. Inst. Fr. Pét. 30, 743–778.	Validated		CrossRef
102	Tissot, B., Pelet, R., Ungerer, P., 1987. Thermal history of sedimentary basins, maturation indices, and kinetics of oil and gas generation. AAPG Bulletin 71, 1445–1466.	Validated	Scopus	
103	Turner, A.C., Korol, R., Eldridge, D.L., Bill, M., Conrad, M.E., Miller, T.F., Stolper, D.A., 2021. Experimental and theoretical determinations of hydrogen isotopic equilibrium in the system CH4-H2-H2O from 3 to 200 °C. Geochimica et Cosmochimica Acta. doi:10.1016/j.gca.2021.04.026	Validated	Scopus	CrossRef

#	Citation	Validation	Scopus	CrossRef
104	Turner, A.C., Pester, N.J., Bill, M., Conrad, M.E., Knauss, K.G., Stolper, D.A., unpublished / under review. Experimental determination of hydrogen isotope exchange rates between methane and water under hydrothermal conditions. Geochimica et Cosmochimica Acta.	Not Validated		
105	Turner, A.C., Pester, N.J., Bill, M., Conrad, M.E., Knauss, K.G., Stolper, D.A., under review. Experimental determination of hydrogen isotope exchange rates between methane and water under hydrothermal conditions. Geochimica et Cosmochimica Acta.	Not Validated		
106	Ungerer, P., Pelet, R., 1987. Extrapolation of the kinetics of oil and gas formation from laboratory experiments to sedimentary basins. Nature 327, 52–54.	Validated	Scopus	CrossRef
107	Vinnichenko, G., Jarrett, A.J.M., van Maldegem, L.M., Brocks, J.J., 2021. Substantial maturity influence on carbon and hydrogen isotopic composition of n-alkanes in sedimentary rocks. Organic Geochemistry 152, 104171.	Validated	Scopus	CrossRef
108	Wang, D.T., 2017. The geochemistry of methane isotopologues (PhD Thesis). Massachusetts Institute of Technology and Woods Hole Oceanographic Institution. doi:10.1575/1912/9052	Not Validated		
109	Wang, D.T., Gruen, D.S., Lollar, B.S., Hinrichs, K.-U., Stewart, L.C., Holden, J.F., Hristov, A.N., Pohlman, J.W., Morrill, P.L., Könneke, M., Delwiche, K.B., Reeves, E.P., Sutcliffe, C.N., Ritter, D.J., Seewald, J.S., McIntosh, J.C., Hemond, H.F., Kubo, M.D., Cardace, D., Hoehler, T.M., Ono, S., 2015. Nonequilibrium clumped isotope signals in microbial methane. Science 348, 428–431.	Validated	Scopus	CrossRef
110	Wang, D.T., Reeves, E.P., McDermott, J.M., Seewald, J.S., Ono, S., 2018. Clumped isotopologue constraints on the origin of methane at seafloor hot springs. Geochimica et Cosmochimica Acta 223, 141–158.	Validated	Scopus	CrossRef
111	Wang, Y., Sessions, A.L., Nielsen, R.J., Goddard III, W.A., 2009. Equilibrium 2H/1H fractionations in organic molecules. II: Linear alkanes, alkenes, ketones, carboxylic acids, esters, alcohols and ethers. Geochimica et Cosmochimica Acta 73, 7076–7086.	Validated	Scopus	CrossRef
112	Wei, L., Gao, Z., Mastalerz, M., Schimmelmann, A., Gao, L., Wang, X., Liu, X., Wang, Y., Qiu, Z., 2019. Influence of water hydrogen on the hydrogen stable isotope ratio of methane at low versus high temperatures of methanogenesis. Organic Geochemistry 128, 137–147.	Validated	Scopus	CrossRef
113	Wenger, L., Price, L., 1991. Differential petroleum generation and maturation paths of the different organic matter types as determined by hydrous pyrolysis over a wide range of experimental temperatures, in: European Association of Organic Geochemists 15th International Meeting, Advances and Applications in the Natural Environment: Organic Geochemistry. pp. 335–339.	Not Validated		
114	Whelan, J.K., Thompson-Rizer, C.L., 1993. Chemical methods for assessing kerogen and protokerogen types and maturity, in: Engel, M.H., Macko, S.A. (Eds.), Organic Geochemistry: Principles and Applications. Springer US, Boston, MA, pp. 289–353.	Validated		CrossRef
115	Whisnant, C.S., Hansen, P.A., Kelley, T.D., 2011. Measuring the relative concentration of H2 and D2 in HD gas with gas chromatography. Review of Scientific Instruments 82, 024101.	Validated	Scopus	CrossRef
116	Xie, H., Dong, G., Formolo, M., Lawson, M., Liu, J., Cong, F., Mangenot, X., Shuai, Y., Ponton, C., Eiler, J., 2021. The evolution of intra- and inter-molecular isotope equilibria in natural gases with thermal maturation. Geochimica et Cosmochimica Acta. doi:10.1016/j.gca.2021.05.012	Validated	Scopus	CrossRef

#	Citation	Validation	Scopus	CrossRef
117	Yeh, H.-W., Epstein, S., 1981. Hydrogen and carbon isotopes of petroleum and related organic matter. Geochimica et Cosmochimica Acta 45, 753–762.	Validated	Scopus	CrossRef
118	Young, E.D., Kohl, I.E., Lollar, B.S., Etiope, G., Rumble, D., Li, S., Haghnegahdar, M.A., Schauble, E.A., McCain, K.A., Foustoukos, D.I., Sutclife, C., Warr, O., Ballentine, C.J., Onstott, T.C., Hosgormez, H., Neubeck, A., Marques, J.M., Pérez-Rodríguez, I., Rowe, A.R., LaRowe, D.E., Magnabosco, C., Yeung, L.Y., Ash, J.L., Bryndzia, L.T., 2017. The relative abundances of resolved 12CH2D2 and 13CH3D and mechanisms controlling isotopic bond ordering in abiotic and biotic methane gases. Geochimica et Cosmochimica Acta 203, 235–264.	Validated	Scopus	CrossRef

Close