

#	Stratigraphic unit	Location	Age (Ma)	Steranes	Facies	Lithology	Sample	Origin / Ref.
				C27-C29 C27-C29 C27-C29	Shallow marine Deep marine Coastal/Deltaic Stratovolcanic Lacustrine Evaporitic	Crystalline Silty shale Shale Siltstone Chert Evaporite		This study / literature
Pre-Marinoan (~900–635 Ma)								
1.	Lulubel Fm	Husman, CN	900–800	100:0:0 100:0:0 100:0:0	n.a. n.a. n.a.	x x x	12-LIB-1 12-LIB-2 05-LIB-2-5	This study. This study. This study.
2.	Kanpa Fm	SW Officer Basin, AU	820–720	100:0:0 100:0:0 100:0:0	n.a. n.a. n.a.	x x x	Empress-1/529.24m Empress-1/533.10m Empress-1/587.83m	This study. This study. This study.
3.	Bitter Springs Fm	Amadeus Basin, AU	770	100:0:0	n.a.	x	Johnny's Creek Mmb	(53)
4.	Kwagunt Fm	Arizona, US	755–740	100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0	n.a. n.a.	x x	Nankowep 155 m Nankowep 165 m Nankowep 180 m Nankowep 192 m Nankowep 215 m Nankowep 217.5 m Nankowep 218 m Nankowep 237.5 m Nankowep 250.5 m Nankowep 262 m Nankowep 280 m Nankowep 287.8 m Nankowep 296 m Nankowep 301.8 m Nankowep 316.5 m Nankowep 318 m Nankowep 376 m Nankowep 395 m Nankowep 412 m	This study. This study.
5.	Visingö Group	Vättern Lake, SE	788–740	100:0:0 96:4:0 98:2:0 97:3:0 95:5:0 97:3:0 100:0:0 92:8:0 97:3:0	n.a. n.a. n.a. n.a. n.a. n.a. n.a. n.a. n.a.	x x x x x x x x x	Näs-1017 E6-1018 E6-1019 Giråskåsen-1020 Omberg-1021 Omberg-1023 Boeryd-1025 Boeryd-1026 Boeryd-1028	This study. This study. This study. This study. This study. This study. This study. This study. This study.
Marinoan (635–~645 Ma)								
	Ghadir Manqull Fm	Sth. Oman Salt Basin, OM	n.d.	C29-C27 C29-C27	x x	x x	GM-1 MQR-1	(83) (83)
Early Ediacaran (635–600 Ma)								
6.	Mirasol Oeste Fm	Amazon craton, BR	635	100:0:0 94:1:5 100:0:0 100:0:0 100:0:0 100:0:0 100:0:0	n.a. 18.8 n.a. n.a. n.a. n.a. n.a.	x x x x x x x	Terconi 15.2 m Terconi 15.2 m HyPy Terconi 16.4 m Terconi 17.7 m Terconi 17.7 m Tangara T5073 Terconi -20 m Kayes K28/01	This study. This study. This study. This study. This study. This study. This study.
7.	Koniakari Gp	Kayes Inlier, ML	635	79:14:07 11:29	n.a. 11.29	x x	Kayes K28/01	This study.
8.	Chistyakovskaya Fm	Angara fold zone, RU	620–600	58:28:14 n.d.	4.1 C29-C27	x x	Soltzvedskaya-1, 2276.5 m OMR 015: Ha, 2026–2060 m	This study. (75)
9.	Masirah Bay Fm	Sth. Oman Salt Basin, OM	635–613	n.d. 21:22:57 10:09:81 n.d. n.d.	C29-C27 0.38 0.12 C29-C27 C29-C27	x x x x x	OMR 016 OMR 027 OMR 153: Ss, 4230–4385 m OMR 157: Th 2895–2910 m	This study. This study. (75) (75)
Middle Ediacaran (600–560 Ma)								
9.	Khufai Fm	Sth. Oman Salt Basin, OM	613–580	n.d.	C29-C27	x	Unspecified	(82)
10.	Oskobinskaya Fm	Baikit High, RU	600–560	16:14:70 40:09:51	0.23 0.78	x x	Kamovskaya-1, 2327.80 m Mussoorie M4	This study. This study.
11.	Krol A Fm	Mussoorie Syncline, IN	590–562	25:22:53 26:22:52 15:17:68 21:26:53 07:18:75 11:09:80 28:15:57	0.47 0.50 0.22 0.40 0.09 0.14 0.49	x x x x x x x	Munta-1, 1648.45 m Munta-1, 1664.82 m Munta-1, 1728.19 m Munta-1, 1800.67 m Munta-1, 1810.55 m Observatory Hill-1, 260.33 m Observatory Hill-1, 264.12 m	(90) (90) (90) (90) (90) (90) (90)
12.	Dey Dey Fm + Karliaya Limestone	E. Officer Basin, AU	580–560	25:22:53 26:22:52 15:17:68 21:26:53 07:18:75 11:09:80 28:15:57	0.47 0.50 0.22 0.40 0.09 0.14 0.49	x x x x x x x	Munta-1, 1648.45 m Munta-1, 1664.82 m Munta-1, 1728.19 m Munta-1, 1800.67 m Munta-1, 1810.55 m Observatory Hill-1, 260.33 m Observatory Hill-1, 264.12 m	(90) (90) (90) (90) (90) (90) (90)
13.	Shuram Fm	Sth. Oman Salt Basin, OM	562–552	n.d. n.d. n.d. n.d. n.d. n.d. n.d.	C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27	x x x x x x x	OMR 010: Mb, 2628–2724 m OMR 018: Sa, 1486–1518 m OMR 019: Su, 930–990 m OMR 026: Za, 1905–1940 m OMR 099: At, 2379 m OMR 150: At, 2053–2121 m	(75) (75) (75) (75) (75) (75)
14.	Buah Fm	Sth. Oman Salt Basin, OM	552–547	n.d. n.d. n.d.	C29-C27 C29-C27 C29-C27	x x x	OMR 017: Sa, 1569–1602 m OMR 020: Ta 4411 m OMR 149: At, 2016–2019 m	(75) (75) (75)
Late Ediacaran–Early Cambrian (560–520 Ma)								
15.	Salt Range Fm	Salt Range, PK	550–540	30:29:41 13:15:72 21:39:40 19:19:62 14:17:69 22:18:60 21:17:62 18:21:61	0.73 0.18 0.53 0.31 0.20 0.37 0.34 0.30	x x x x x x x x	Dulmiyal-1, 1954' Karam Pur-1, 7253' Khawra Gorge Jan Sukh Nala Dhodha Wahan Kundal oil seep Salgi Nala oil seep Dom Nala oil seep	(93) (93) (93) (93) (93) (93) (93) (93)
16.	Baghewala oil	Bikaner-Nagaur, IN	550–540	13:21:66 12:19:69 11:19:70 12:19:69 13:16:71 11:18:71 12:19:69 12:18:70 12:19:69 13:19:68	0.19 0.17 0.15 0.17 0.18 0.16 0.17 0.17 0.19	x x x x x x x x x	BGW-Crude oil BGW-A/J/Sst-Cst/2 BGW-A/J/Sst/6 BGW-C/J/Sst/6 BGW-C/B/D/Lst/5 BGW-D/B/Sst-Cst/1 BGW-D/B/Sst-Cst/7 BGW-O/J/Sst/13 BGW-E/J/Sst/1 BGW-E/J/Sst/3	(97) (97) (97) (97) (97) (97) (97) (97) (97) (97)
17.	Gavrilov Jam Fm	Moscow syncline, RU	550–540	23:12:65 24:36:40	0.35 0.60	x x	Gavrilov Jam 2543 m Gavrilov Jam 1984 m	(99) (99)
18.	Khatyspyt Fm	Arctic Siberia, RU	551–544	20:17:64	0.31	x	Unspecified	(105)
19.	Ara Gp - Platform	Sth. Oman Salt Basin, OM	547–539	n.d. n.d. n.d. n.d. n.d. n.d. n.d. n.d. n.d. n.d. n.d.	C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27	x x x x x x x x x x x	OMR 028: Bl, 2927 m OMR 029: Bl, 2930 m OMR 030: Bl, 2928 m OMR 031: Bl, 2928 m OMR 032: Bl, 2920 m OMR 033: Bl, 3009 m OMR 034: BlN, 4204 m OMR 035: BlN, 3790 m OMR 036: BlN, 3789 m OMR 037: BlN, 3787 m	(75) (75) (75) (75) (75) (75) (75) (75) (75) (75)
19.	Ara Gp - Basin	Sth. Oman Salt Basin, OM	547–539	n.d. n.d. n.d. n.d. n.d. n.d. n.d. n.d. n.d.	C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27 C29-C27	x x x x x x x x x	OMR 003: At, 1000–1102 m OMR 004: At, 1198–1425 m OMR 005: At, 1425–1527 m OMR 006: At, 1527–1650 m OMR 007: At, 1773–1872 m OMR 011: Ma, 2068–2084 m OMR 011: Ma, 2104–2120 m OMT 011: Ma, 2240–2352 m	(75) (75) (75) (75) (75) (75) (75) (75)
20.	Siva oil	Urals, RU	550–530	n.d.	0.1	x	Siva field	(112)
21.	Zhetebay oil	KZ	550–530	n.d.	C29-C27	x	Unspecified	(7)
22.	Usoylo Fm	Katanga Saddle, RU	534–530	18:12:72 25:10:65 20:14:66 18:10:72	0.26 0.38 0.31 0.26	x x x x	Kulindinsky -1, 1835.38 m Kulindinsky -1, 1853.46 m Kulindinsky -1, 1858.28 m Kulindinsky -1, 1865.87 m	This study. This study. This study. This study.
23.	Lena-Tunguska oils	E. Siberia, RU	534–526	21:18:61	0.35	x	Danilovskaya oil	(114)
24.	Mt. Cap Fm	Colville area [NWT], CA	540–520	n.d.	C29-C27	x	Colville D-45, 943 m	(115, 116)
25.	Diamond Bog Dolomite	Warburton Basin, AU	535–520	33:20:47	0.71	x	Gidgealpa-7, 7704'	(120)

Color code (steranes)
 ● C27 steranes only
 ● C27 > C29 steranes
 ● C27 < C29 steranes

Abbreviations
 n.a. not applicable
 n.d. not determined / not provided

Color code (analysis: this study/literature)
 ● Analyzed within the framework of this study
 ○ Values obtained from the literature

Table S1
 Steranes in Neoproterozoic rocks. Origin, age, depositional environment, lithology and sterane content of sedimentary rocks used in this study. Color codes correspond to Fig. 1.