



**APPENDICES**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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**APPENDIX A**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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**Table Ap I-1** The description of samples from Fang-MS well from Fang basin.

Sample No.	Depth (m.)		Formation	Descriptions
	top	bottom		
11856	539.50	548.64	Mae Sot	gray claystone, dark gray shale
11857	551.69	563.88	Mae Sot	gray claystone, dark gray shale and gray sandstone: coarse to fine size, subrounded
11858	566.93	579.12	Mae Sot	gray sandstone: very coarse to fine size, subrounded; dark gray claystone
11859	582.17	594.36	Mae Sot	gray mudstone, dark gray shale, gray sandstone: very coarse to fine size
11860	597.41	609.60	Mae Sot	gray sandstone: very coarse to fine size, subround; dark gray mudstone
11861	612.65	624.84	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11862	627.89	637.03	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11863	658.37	670.56	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11864	673.61	685.80	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11865	688.85	701.04	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11866	704.09	716.28	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11867	719.33	731.52	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11868	734.57	746.76	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11869	749.81	762.00	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11870	765.05	777.24	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11871	780.29	792.48	Mae Sot	gray mudstone, dark gray siltstone, gray shale
11872	795.53	807.72	Mae Sot	gray sandstone: very coarse to fine size, subrounded; dark gray claystone
11873	810.77	822.96	Mae Sot	gray mudstone, dark gray siltstone
11874	826.01	838.20	Mae Sot	gray sandstone: very coarse to fine size, subrounded; dark gray claystone
11875	847.34	847.34	Mae Sot	gray mudstone, dark gray siltstone, gray sandstone: medium to fine size
11876	874.78	883.92	Mae Sot	gray mudstone, dark gray siltstone, gray sandstone: medium to fine size
11877	886.97	899.16	Mae Sot	gray mudstone, dark gray siltstone

Table Ap I-1 (Cont.)

Sample No.	Depth (m.)		Formation	Descriptions
	top	bottom		
11877	886.97	899.16	Mae Sot	gray mudstone, dark gray siltstone
11878	902.21	914.40	Mae Sot	gray mudstone, dark gray siltstone
11879	917.45	929.64	Mae Sot	gray mudstone, dark gray siltstone
11880	935.74	941.83	Mae Sot	gray mudstone, dark gray siltstone
11881	947.93	960.12	Mae Sot	gray mudstone, dark gray siltstone
11882	978.41	990.60	Mae Sot	gray mudstone, dark gray siltstone
11883	993.65	1002.79	Mae Sot	gray mudstone, dark gray siltstone
11884	1008.89	1021.08	Mae Sot	gray sandstone: very coarse to fine size, subrounded; dark gray claystone
11885	1024.13	1036.32	Mae Sot	gray mudstone, dark gray shale, gray sandstone: medium to very fine size
11886	1039.37	1051.56	Mae Sot	gray sandstone: very coarse to fine size, subrounded; dark gray claystone
11887	1054.61	1066.80	Mae Sot	gray mudstone, dark gray siltstone, gray sandstone: medium to very fine size
11888	1069.85	1082.04	Mae Sot	gray sandstone: very coarse to fine size, subrounded; gray mudstone
11889	1085.09	1094.23	Mae Sot	gray mudstone, gray sandstone: coarse to fine size, gray siltstone
11890	1100.33	1112.52	Mae Sot	gray mudstone, gray sandstone: coarse to fine size
11891	1115.57	1127.76	Mae Sot	gray mudstone, gray sandstone: coarse to fine size
11892	1146.05	1146.05	Mae Sot	gray mudstone, gray sandstone: coarse to fine size, gray siltstone

**Table Ap I-2** The description of samples from Na Hong basin.

Sample No.	Sample	Lithology	Description
14705	1	Oil shale	brownish gray, drak brown, massive
14706	2	Mudstone	reddish brown to brown, massive
14707	3	Oil shale	medium gray to dark gray, massive
14708	4	Oil shale	medium gray to dark gray, massive
14709	5	Oil shale	medium gray to dark gray, massive
14710	6	Oil shale	medium gray to dark gray, massive
14711	7	Coaly mudstone	black gray to dark brown, dull to bright interbedded with claystone
14712	8	Coaly mudstone	black gray to dark brown, dull to bright interbedded with claystone
14713	10	Mudstone	brown to medium brown, subfissile
14714	11	Mudstone	brown to medium brown, subfissile
14715	12	Mudstone	brown to medium brown, subfissile
14716	13	Mudstone	brown to medium brown, subfissile
14717	14	Mudstone	brown to medium brown, subfissile
14718	17	Coaly mudstone	black gray to dark brown, dull to bright interbedded with claystone
14719	18	Coaly mudstone	black gray to dark brown, dull to bright interbedded with claystone
14720	19	Mudstone	medium brown to medium gray

**Table Ap I-3** The description of samples from Li basin.

Sample No.	Sample	Lithology	Description
14689	1	Shale	reddish brown to brown, massive, fissile, interbedded with mudstone
14690	2	Shale	reddish brown to brown, massive, fissile
14691	3	Shale	reddish brown to brown, sub fissile
14692	4	Mudstone	brown, silty, lamination
14693	5	Oil shale	light gray to dark gray
14694	6	Mudstone	light gray to gray, silty, sub fissile
14695	7	Oil shale	light gray to dark gray
14696	8	Mudstone	brown, yellowish brown, lamination
14697	9	Shale	gray to light gray, fissile
14698	10	Mudstone	light gray, sub fissile

**Table Ap I-4** The description of samples from Mae Sot basin.

Sample No.	Sample	Lithology	Description
14699	U1	Oil shale	medium gray to dark gray, sticky, lamination
14700	U2	Oil shale	medium gray to dark gray, sticky, lamination
14701	U3	Oil shale	medium gray to dark gray, sticky, lamination
14702	M1	Oil shale	dark gray, very sticky, lamination
14703	M2	Oil shale	dark gray, very sticky, lamination
14704	M3	Oil shale	dark gray, very sticky, lamination

**Table Ap I-5** The description of samples from P-SK well from Phitsanulok basin.

Sample No.	Depth (m.)		Formation	Description
	top	bottom		
14721	900	950	Yom	sandstone, light gray to white, very fine to medium grained, subangular to subrounded, brown claystone
14722	950	1000	Yom	claystone, orange brown to reddish brown, light gray to gray siltstone
14723	1000	1050	Yom	sandstone, light gray, very fine to fine grained, subangular to subrounded, gray siltstone
14724	1050	1100	Yom	claystone, orange brown to reddish brown, light yellowish brown siltstone
14725	1100	1150	Yom	sandstone, light gray to white, very fine to fine grained, subrounded
14726	1150	1200	Yom	claystone, light brown to orange brown, reddish brown, light gray siltstone
14727	1200	1250	Yom	claystone, light brown to orange brown, reddish brown, light gray siltstone
14728	1250	1300	Yom	claystone, light brown to orange brown, reddish brown, light gray siltstone, sandstone, light gray to white, very fine to fine, subangular to subrounded
14729	1300	1350	Yom	sandstone, light gray to white, subangular to subrounded, claystone, light brown to orange brown, reddish brown, light gray siltstone
14730	1350	1400	Yom	claystone, light gray to dark gray, sandstone, light gray, dark gray, very fine to fine, subangular to subrounded
14731	1400	1450	Yom	claystone, light gray to gray, light brown to orange brown
14732	1450	1500	Pratu Tao	claystone, light gray to gray light brown to orange brown
14733	1500	1550	Pratu Tao	claystone, light gray to gray light brown to orange brown
14734	1550	1600	Pratu Tao	claystone light gray to gray, light brown to orange brown
14735	1600	1650	Pratu Tao	sandstone, light gray to white, subangular to subrounded, claystone, light brown to orange brown, reddish brown, light gray siltstone
14736	1650	1700	Pratu Tao	claystone, light gray, orange brown
14737	1700	1750	Pratu Tao	claystone, light gray, light brown to orange brown
14738	1750	1800	Pratu Tao	sandstone, light gray, very fine to medium grained, subangular to subrounded
14739	1800	1850	Pratu Tao	claystone, light gray, dark gray, orange brown, sandstone, light gray, fine to medium grained, subangular to subrounded
14740	1850	1900	Chum Saeng	claystone, dark gray, greenish gray, light gray
14741	1900	1950	Chum Saeng	claystone, dark gray, greenish gray, light gray
14742	1950	2000	Chum Saeng	claystone, dark gray, greenish gray, light gray
14743	2000	2050	Chum Saeng	claystone, dark gray, greenish gray, light gray

Table Ap I-5 (Cont.).

Sample No.	Depth (m.)		Formation	Description
	top	bottom		
14744	2050	2100	Chum Saeng	claystone, light brown to brown, dark gray, very silty to silty
14745	2100	2150	Chum Saeng	claystone, light brown to brown, dark gray, very silty to silty, sandstone, light gray, very fine to fine grained, subrounded
14746	2150	2200	Chum Saeng	claystone, dark gray, light brown, very silty to silty, sandstone, light gray to dark gray, very fine to medium grained, subrounded to rounded
14747	2200	2250	Lan Krabu	sandstone, light gray to dark gray, very fine to fine grained, subround to rounded
14748	2250	2300	Lan Krabu	claystone, dark gray, light brown, very silty to silty, sandstone, light gray to dark gray, very fine to medium grained, subrounded to rounded
14749	2300	2350	Lan Krabu	claystone, dark gray, light brown, very silty to silty, sandstone, light gray to dark gray, very fine to medium grained, subrounded to rounded
14750	2350	2400	Lan Krabu	sandstone, light gray to dark gray, very fine to fine grained, subround to rounded
14751	2400	2450	Lan Krabu	sandstone, light gray to dark gray, very fine grained, subround to rounded
14752	2450	2500	Lan Krabu	claystone, dark gray to gray, light brown, very silty
14753	2500	2550	Lan Krabu	claystone, dark gray to gray, light brown, very silty, sandstone, light gray, dark gray, very fine grained, subrounded to rounded
14754	2550	2600	Lan Krabu	claystone, dark gray to gray, light brown, very silty, sandstone, light gray, dark gray, very fine grained, subrounded to rounded
14755	2600	2650	Lan Krabu	claystone, dark gray to gray, light brown, very silty
14756	2650	2700	Lan Krabu	claystone, dark gray to gray, light brown, very silty
14758	2750	2800	Lan Krabu	claystone, dark gray to gray, silty
14759	2800	2850	Lan Krabu	claystone, dark gray to gray, silty, sandstone, light gray, dark gray, very fine grained, subround to rounded
14760	2850	2900	Lan Krabu	claystone, dark gray to gray, silty
14761	2900	2950	Lan Krabu	claystone, dark gray to gray, silty
14762	2950	3000	Lan Krabu	claystone, dark gray to gray, silty, sandstone, light gray to dark gray, very fine grained, subround to subangular
14763	3000	3050	Lan Krabu	claystone, dark gray, light gray, dark reddish brown, silty
14764	3050	3070	Lan Krabu	claystone, dark gray, light gray, dark reddish brown, silty



**Table Ap I-6** The description of samples from SP1 well from Suphanburi basin.

Sample No.	Depth (m.)		Formation	Description
	top	bottom		
11698	1000	1015	unit D	mudstone, dark yellowish brown to reddish brown
11699	1020	1030	unit D	mudstone, dark yellowish brown to reddish brown
11700	1035	1050	unit D	mudstone, dark yellowish brown to reddish brown
11701	1050	1065	unit D	mudstone, dark yellowish brown to reddish brown
11702	1065	1080	unit D	mudstone, dark yellowish brown to reddish brown
11703	1100	1105	unit D	mudstone, dark yellowish brown to reddish brown
11704	1125	1140	unit D	mudstone, dark yellowish brown to reddish brown
11705	1140	1155	unit D	mudstone, dark yellowish brown to brown
11706	1155	1170	unit D	mudstone, dark yellowish brown to brown
11707	1170	1185	unit D	mudstone, dark yellowish brown to brown
11708	1185	1200	unit D	mudstone, dark yellowish brown to brown
11709	1200	1215	unit D	sandstone, reddish brown, medium to very coarse grained, subangular to subrounded
11710	1215	1230	unit D	sandstone, reddish brown, medium to very coarse grained, subangular to subrounded
11711	1230	1245	unit D	mudstone, gray to grayish brown, silty, calcareous
11712	1245	1260	unit D	mudstone, gray to grayish brown, silty, calcareous
11713	1260	1275	unit D	sandstone, fine to medium grained, subangular to subrounded, moderate to poorly sorted
11714	1275	1290	unit D	sandstone, fine to medium grained, subangular to subrounded, moderate to poorly sorted
11715	1290	1305	unit D	mudstone, gray to grayish brown, silty, calcareous
11716	1305	1320	unit D	mudstone, gray to grayish brown, silty, calcareous
11717	1320	1335	unit D	mudstone, gray to grayish brown, silty, calcareous
11718	1335	1350	unit D	mudstone, gray to grayish brown, silty, calcareous
11719	1350	1365	unit D	mudstone, gray to grayish brown, silty, calcareous
11720	1365	1380	unit D	mudstone, gray to grayish brown, silty, calcareous
11721	1380	1395	unit D	sandstone, fine to medium grained, subangular to subrounded, moderate to poorly sorted
11722	1395	1410	unit C	sandstone, fine to medium grained, subangular to subrounded, moderate to poorly sorted
11723	1410	1425	unit C	sandstone, fine to medium grained, subangular to subrounded, moderate to poorly sorted
11724	1425	1440	unit C	mudstone, gray to grayish brown, silty, calcareous
11725	1440	1450	unit C	mudstone, gray to grayish brown, silty, calcareous
11726	1455	1465	unit C	mudstone, gray to grayish brown, silty, calcareous
11727	1470	1485	unit C	mudstone, gray to grayish brown, silty, calcareous
11728	1485	1500	unit C	mudstone, gray to grayish brown, silty, calcareous
11729	1500	1515	unit C	mudstone, gray to grayish brown, silty, calcareous
11730	1515	1530	unit C	mudstone, gray to grayish brown, silty, calcareous
11731	1530	1545	unit C	mudstone, gray to grayish brown, silty, calcareous
11732	1545	1560	unit C	mudstone, gray to grayish brown, silty, calcareous
11733	1560	1570	unit C	mudstone, gray to grayish brown, silty, calcareous
11734	1575	1590	unit C	mudstone, gray to grayish brown, silty, calcareous
11735	1590	1605	unit C	mudstone, gray to grayish brown, silty, calcareous
11736	1605	1620	unit C	mudstone, gray to grayish brown, silty, calcareous
11737	1620	1635	unit C	mudstone, gray to grayish brown, silty, calcareous

Table Ap I-6 (Cont.).

Sample No.	Depth (m.)		Formation	Description
11738	1635	1650	unit C	mudstone, gray to grayish brown, silty, calcareous
11739	1650	1665	unit C	sandstone, fine to medium grained, subangular to subrounded, moderate to poorly sorted
11740	1665	1680	unit C	mudstone, dark gray to gray, hard, silty, calcareous
11741	1680	1695	unit C	sandstone, fine to medium grained, subangular to subrounded, moderate to poorly sorted
11742	1695	1710	unit C	mudstone, dark gray to gray, hard, silty, calcareous
11743	1710	1725	unit C	sandstone, fine to medium grained, subangular to subrounded, moderate to poorly sorted
11744	1725	1740	unit C	mudstone, dark gray to gray, hard, silty, calcareous
11745	1740	1755	unit C	mudstone, dark gray to gray, hard, silty, calcareous
11746	1755	1770	unit C	mudstone, dark gray to gray, hard, silty, calcareous
11747	1770	1775	unit C	mudstone, dark gray to gray, hard, silty, calcareous
11748	1900	1905	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11749	1907	1910	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11750	1911	1913	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11751	1917	1930	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11752	1935	1945	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11753	1945	1960	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11754	1960	1975	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11755	1975	1990	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11756	1990	2000	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11757	2080	2095	unit B	sandstone, light gray, medium to coarse grained, angular to subrounded, poorly sorted
11758	2090	2105	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11759	2105	2120	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11760	2120	2135	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11761	2135	2150	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11762	2150	2165	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11763	2165	2180	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11764	2180	2195	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11765	2195	2210	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11766	2210	2225	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11767	2225	2240	unit B	mudstone, dark gray to gray, hard, silty, calcareous
11768	2435	2450	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11769	2465	2480	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11770	2480	2485	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11771	2495	2515	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11772	2515	2530	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11773	2530	2545	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11774	2545	2560	unit A	mudstone, dark gray to black, hard, silty, silty to

**Table Ap I-6 (Cont.).**

Sample No.	Depth (m.)		Formation	Description
				sandy
11775	2560	2575	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11776	2575	2590	unit A	siltstone, brownish gray, soft
11777	2590	2605	unit A	siltstone, brownish gray, soft
11778	2605	2620	unit A	siltstone, brownish gray, soft
11779	2620	2635	unit A	siltstone, brownish gray, soft
11780	2635	2640	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11781	2655	2670	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11782	2675	2680	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11783	2705	2720	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11784	2740	2755	unit A	mudstone, dark gray to black, hard, silty, silty to sandy
11785	2760	2775	unit A	sandstone, gray, medium to very coarse grained, hard
11786	2790	2805	unit A	sandstone, gray, medium to very coarse grained, hard
11787	2830	2840	unit A	sandstone, gray, medium to very coarse grained, hard

**Table Ap I-7** The description of samples from SP2 well from Suphanburi basin.

Sample No.	Depth (m.)		Formation	Description
11788	1014.98	1021.08	unit D	siltstone, reddish brown
11789	1024.13	1036.32	unit D	siltstone, reddish brown
11790	1039.37	1051.56	unit D	siltstone, reddish brown
11791	1054.61	1066.80	unit D	siltstone, reddish brown
11792	1069.85	1082.04	unit D	siltstone, reddish brown
11793	1085.09	1094.23	unit D	siltstone, reddish brown
11794	1100.33	1112.52	unit D	siltstone, reddish brown
11795	1115.57	1133.86	unit C	mudstone, gray, grayish green to black
11796	1133.86	1152.14	unit C	mudstone, gray, grayish green to black
11797	1152.14	1170.43	unit C	mudstone, gray, grayish green to black
11798	1170.43	1185.67	unit C	mudstone, gray, grayish green to black
11799	1185.67	1200.91	unit C	mudstone, gray, grayish green to black
11800	1200.91	1216.15	unit C	mudstone, gray, grayish green to black
11801	1216.15	1234.44	unit C	mudstone, gray, grayish green to black
11802	1237.49	1249.68	unit C	mudstone, gray, grayish green to black
11803	1252.73	1264.92	unit C	mudstone, gray, grayish green to black
11804	1267.97	1280.16	unit C	mudstone, gray, grayish green to black
11805	1283.21	1295.40	unit C	mudstone, gray, grayish green to black
11806	1298.45	1310.64	unit C	mudstone, gray, grayish green to black
11807	1313.69	1325.88	unit C	mudstone, gray, grayish green to black
11808	1325.88	1341.12	unit C	mudstone, gray, grayish green to black
11809	1344.17	1356.36	unit C	mudstone, gray, grayish green to black
11810	1359.41	1371.60	unit C	mudstone, gray, grayish green to black
11811	1374.65	1386.84	unit C	mudstone, gray, grayish green to black
11812	1389.89	1402.08	unit C	mudstone, gray, grayish green to black
11813	1405.13	1417.32	unit C	mudstone, gray, grayish green to black
11814	1420.37	1432.56	unit C	mudstone, gray, grayish green to black
11815	1435.61	1447.80	unit C	mudstone, gray, grayish green to black
11816	1450.85	1463.04	unit B	mudstone, gray, grayish green to black
11817	1466.09	1478.28	unit B	mudstone, gray, grayish green to black
11818	1481.33	1493.52	unit B	mudstone, gray, grayish green to black
11819	1496.57	1508.76	unit B	mudstone, gray, grayish green to black
11820	1511.81	1524.00	unit B	mudstone, gray, grayish green to black
11821	1530.10	1539.24	unit B	mudstone, gray, grayish green to black
11822	1542.29	1554.48	unit B	mudstone, gray, grayish green to black
11823	1557.53	1569.72	unit B	mudstone, gray, grayish green to black
11824	1572.77	1584.96	unit B	mudstone, gray, grayish green to black
11825	1642.87	1645.92	unit B	mudstone, dark gray to black
11826	1652.02	1658.11	unit B	mudstone, dark gray to black
11827	1673.35	1676.40	unit B	mudstone, dark gray to black
11828	1682.50	1685.54	unit B	mudstone, dark gray to black
11829	1697.74	1703.83	unit B	mudstone, dark gray to black
11830	1709.93	1722.12	unit B	mudstone, dark gray to black
11831	1725.17	1734.31	unit B	mudstone, dark gray to black
11832	1740.41	1752.60	unit B	mudstone, dark gray to black
11833	1755.65	1767.84	unit B	mudstone, dark gray to black
11834	1773.94	1776.98	unit B	mudstone, dark gray to black

Table Ap I-7 (Cont.).

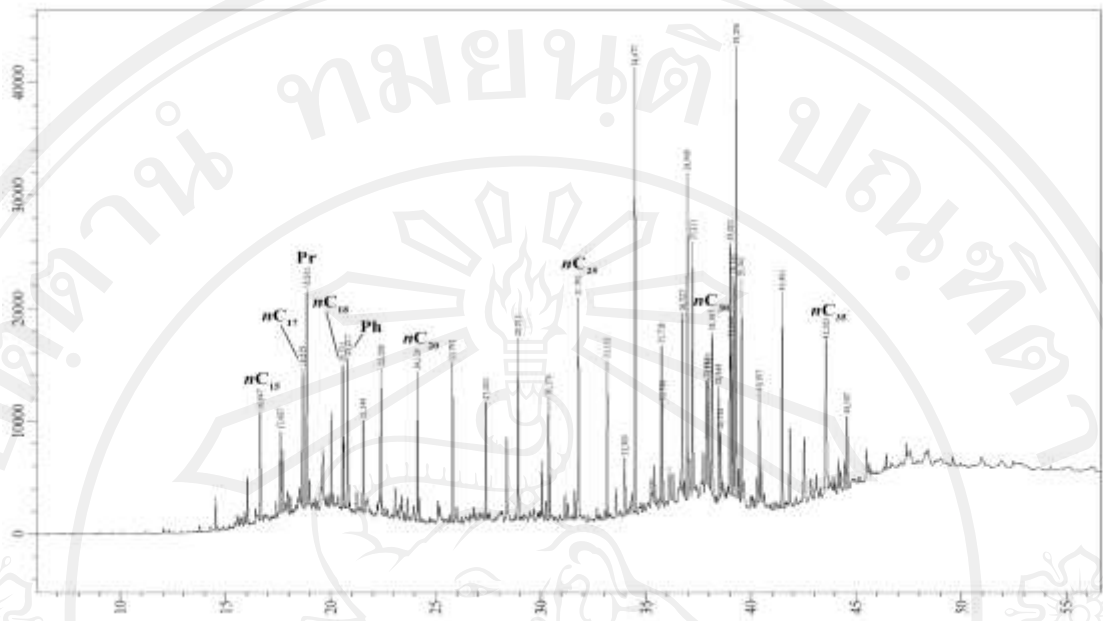
Sample No.	Depth (m.)		Formation	Description
11835	1819.66	1828.80	unit B	sandstone, gray, fine to medium grained, moderate to poorly sorted
11836	1831.85	1834.90	unit B	sandstone, gray, fine to medium grained, moderate to poorly sorted
11837	1853.18	1856.23	unit B	mudstone, dark gray to black
11838	1865.38	1868.42	unit B	mudstone, dark gray to black
11839	1880.62	1889.76	unit B	mudstone, dark gray to black
11840	1908.05	1917.19	unit B	sandstone, gray to white, fine to medium grained, moderate to poorly sorted
11841	1923.29	1935.48	unit B	sandstone, gray to white, fine to medium grained, moderate to poorly sorted
11842	1938.53	1950.72	unit B	sandstone, gray to white, fine to medium grained, moderate to poorly sorted
11843	1959.86	1972.06	unit B	sandstone, gray to white, fine to medium grained, moderate to poorly sorted
11844	1990.34	1996.44	unit A	sandstone, gray to white, fine to medium grained, moderate to poorly sorted
11845	2008.63	2020.82	unit A	sandstone, gray to white, fine to medium grained, moderate to poorly sorted
11846	2051.30	2057.40	unit A	sandstone, gray to white, fine to medium grained, moderate to poorly sorted
11847	2093.98	2097.02	unit A	sandstone, gray to white, fine to medium grained, moderate to poorly sorted



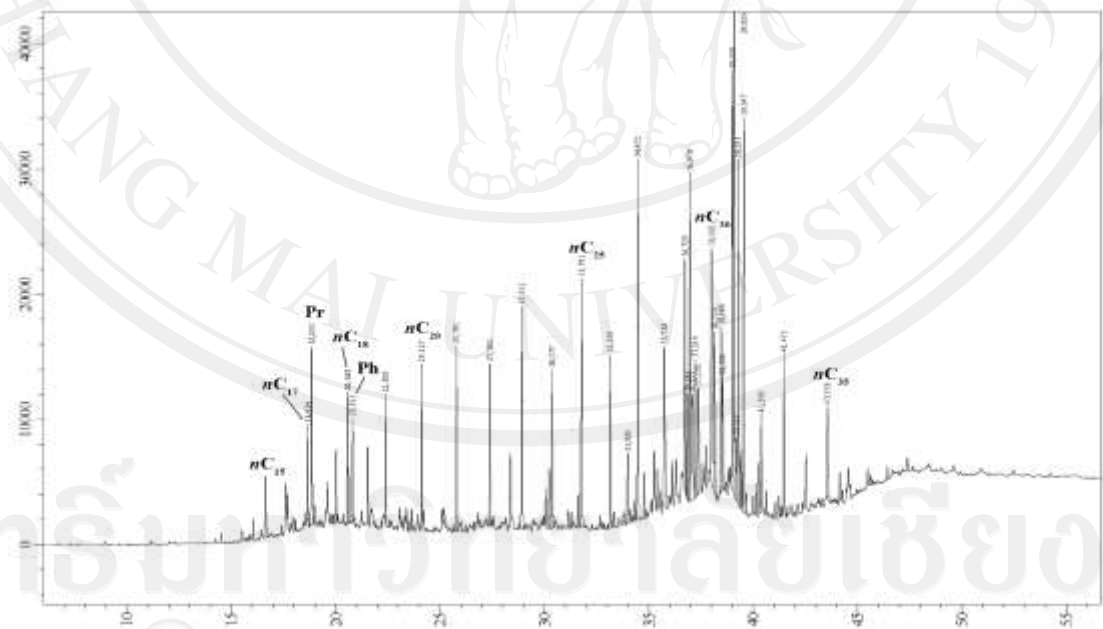
**APPENDIX B**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

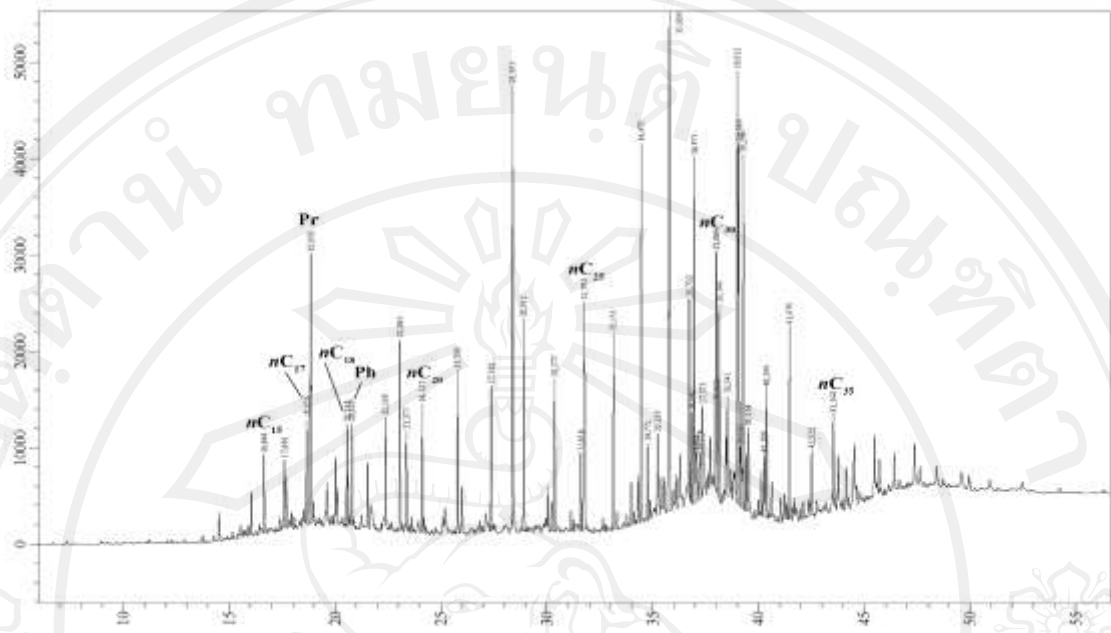
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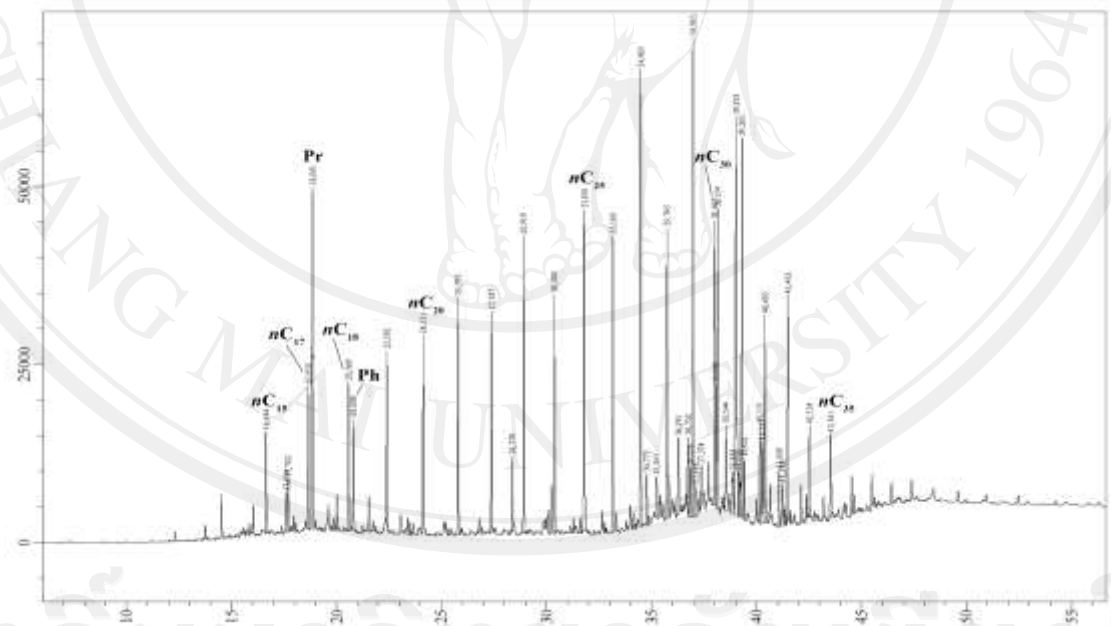
**Figure Ap II-1** Gas chromatography profile of *n*-alkane of sample no. 11863 from Fang-MS well of Fang basin.



**Figure Ap II-2** Gas chromatography profile of *n*-alkane of sample no. 11876 from Fang-MS well of Fang basin.

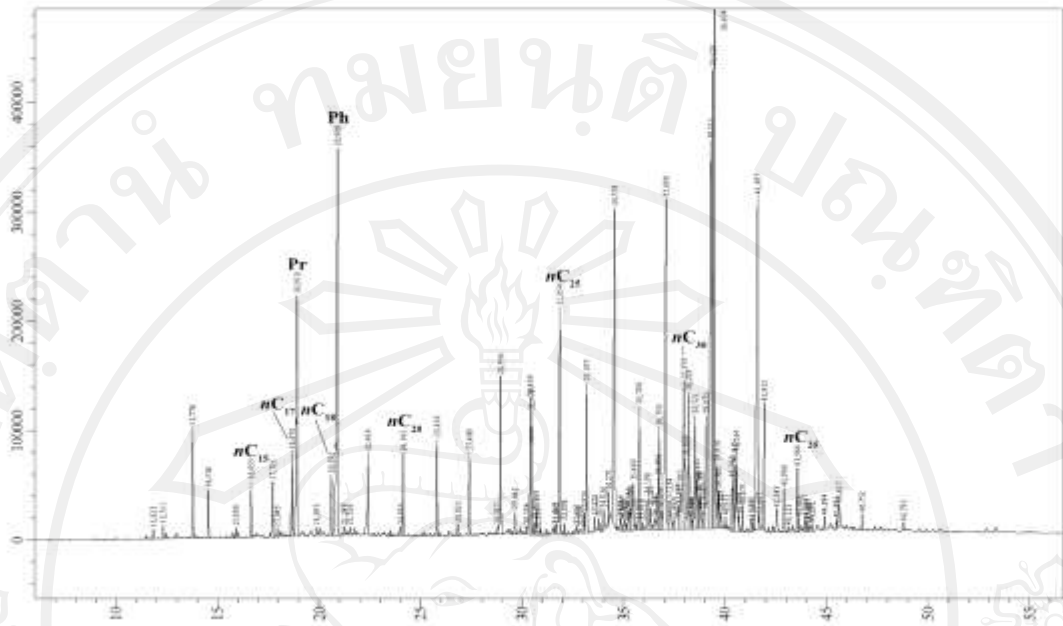


**Figure Ap II-3** Gas chromatography profile of *n*-alkane of sample no. 11880 from Fang-MS well of Fang basin.

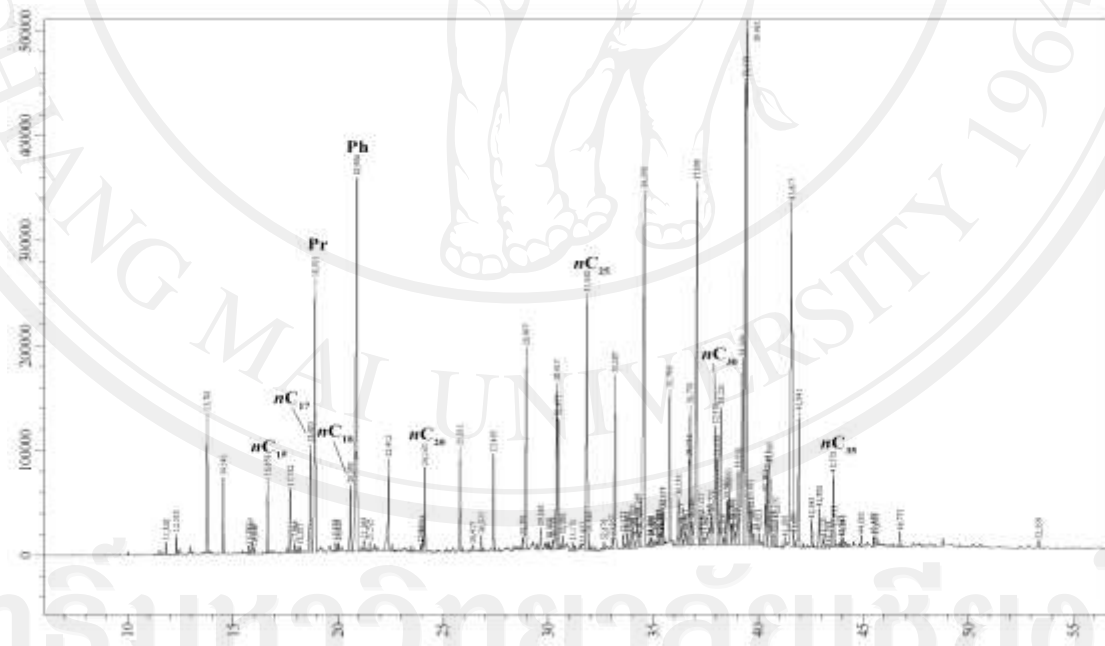


**Figure Ap II-4** Gas chromatography profile of *n*-alkane of sample no. 11887 from Fang-MS well of Fang basin.

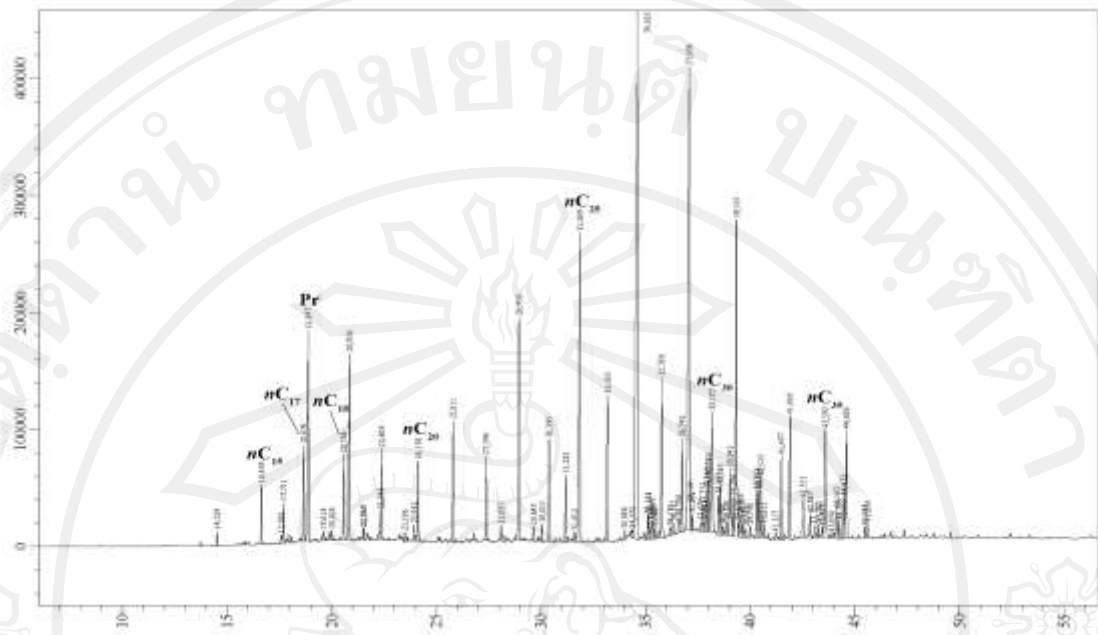




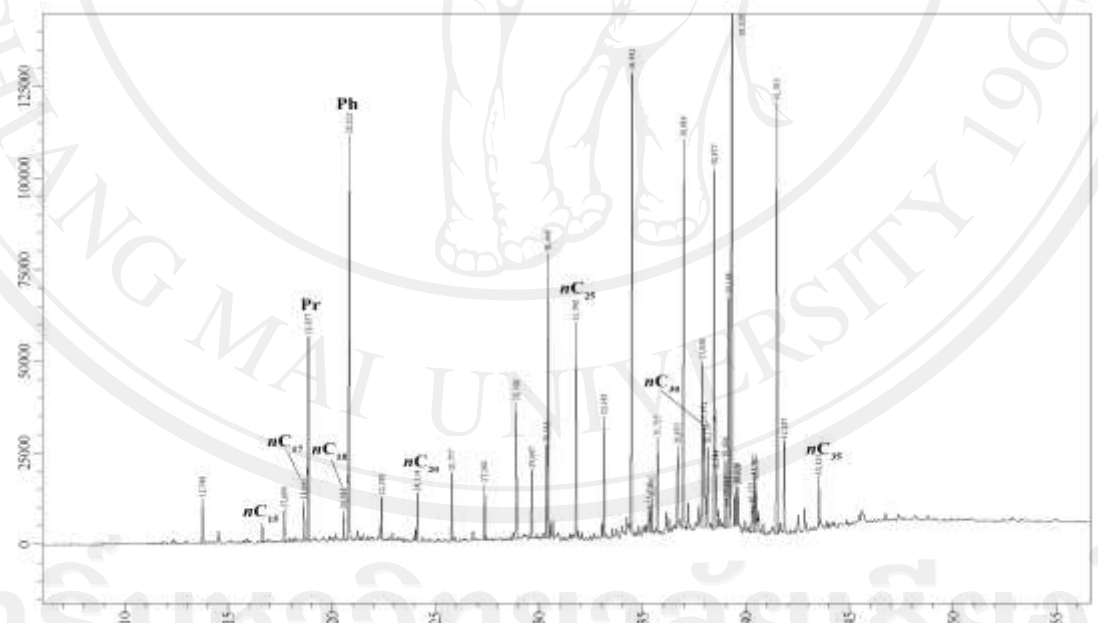
**Figure Ap II-5** Gas chromatography profile of *n*-alkane of sample no. 14709 from Na Hong basin.



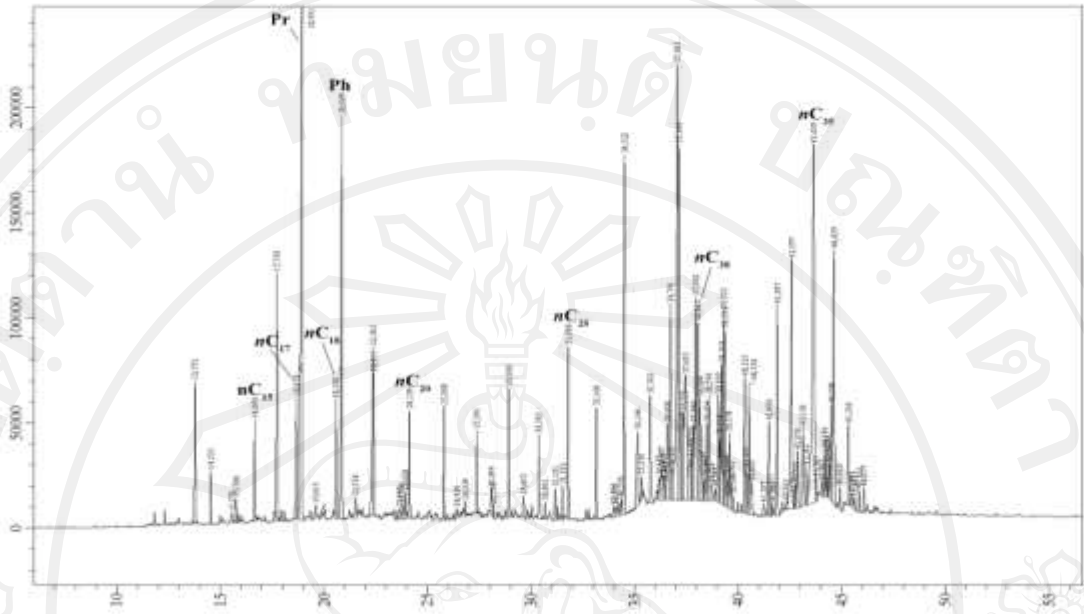
**Figure Ap II-6** Gas chromatography profile of *n*-alkane of sample no. 14712 from Na Hong basin.



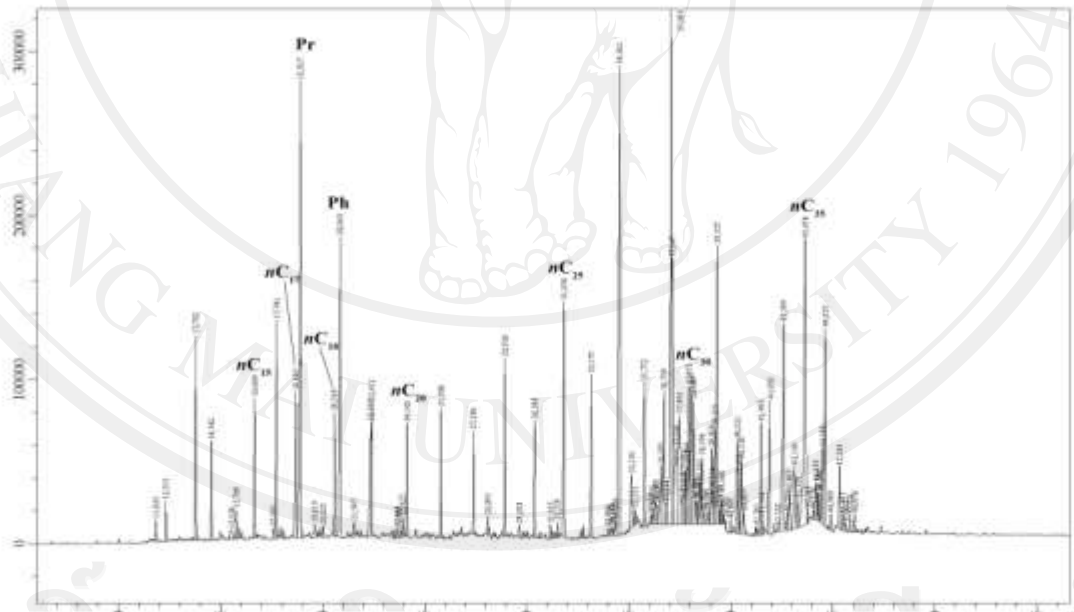
**Figure Ap II-7** Gas chromatography profile of *n*-alkane of sample no. 14714 from Na Hong basin.



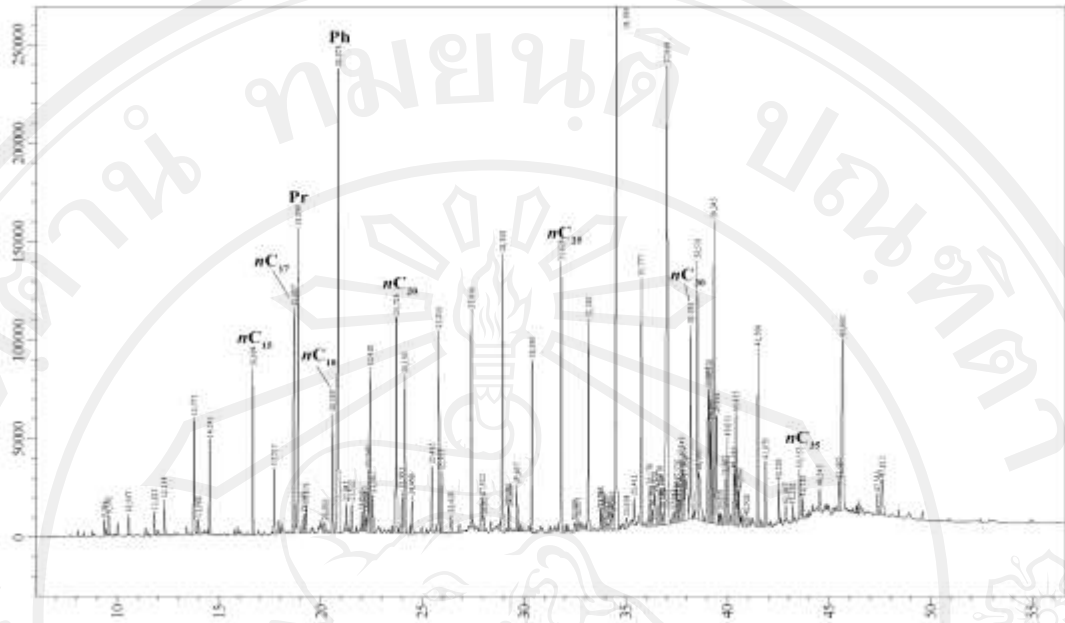
**Figure Ap II-8** Gas chromatography profile of *n*-alkane of sample no. 14718 from Na Hong basin.



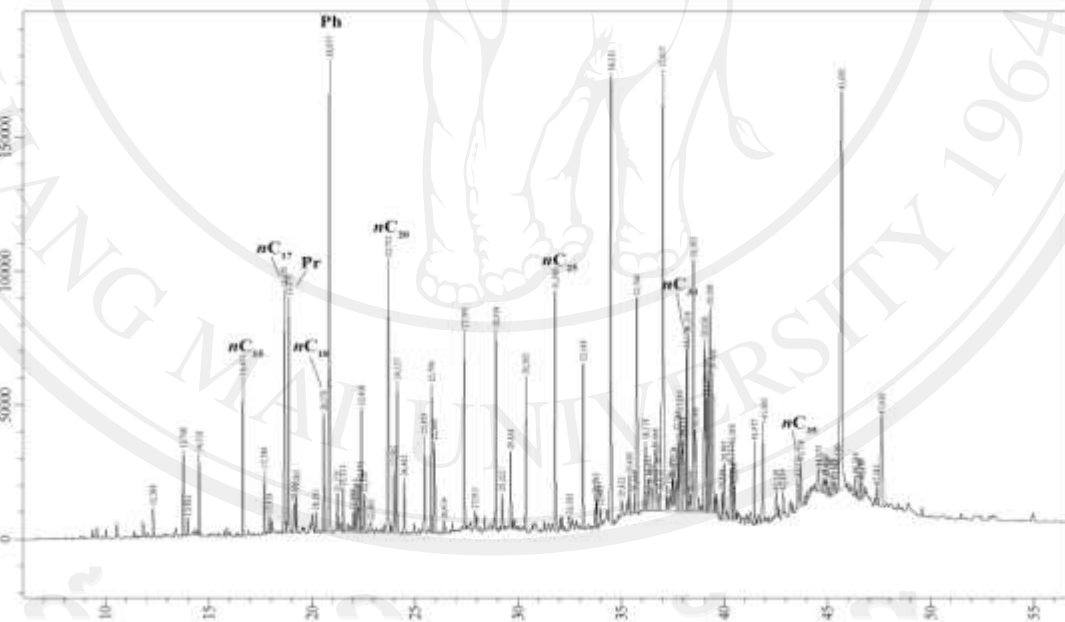
**Figure Ap II-9** Gas chromatography profile of *n*-alkane of sample no. 14693 from Li basin.



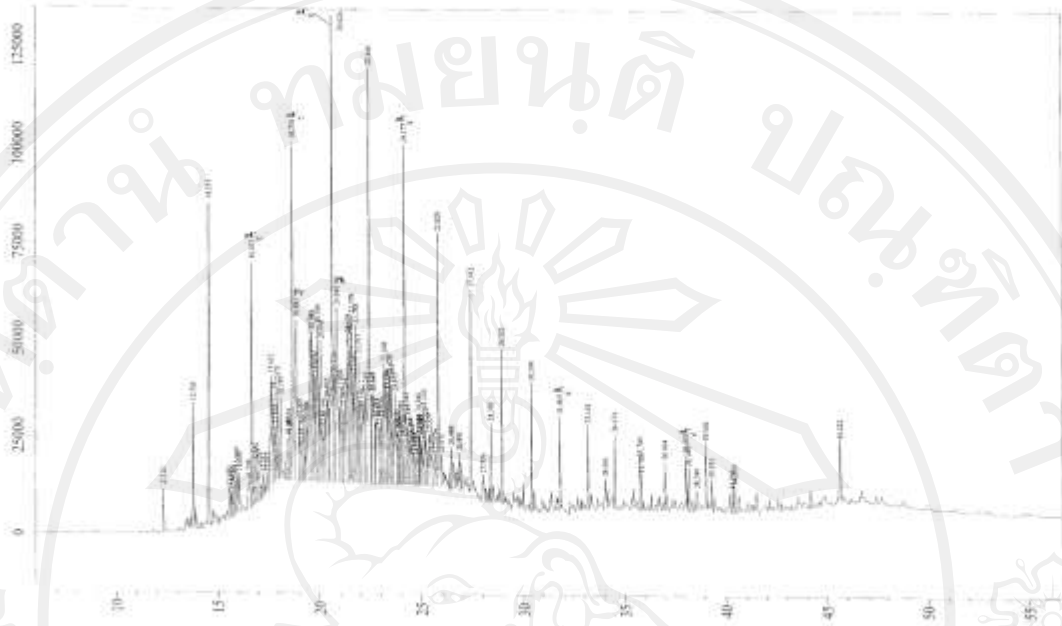
**Figure Ap II-10** Gas chromatography profile of *n*-alkane of sample no. 14695 from Li basin.



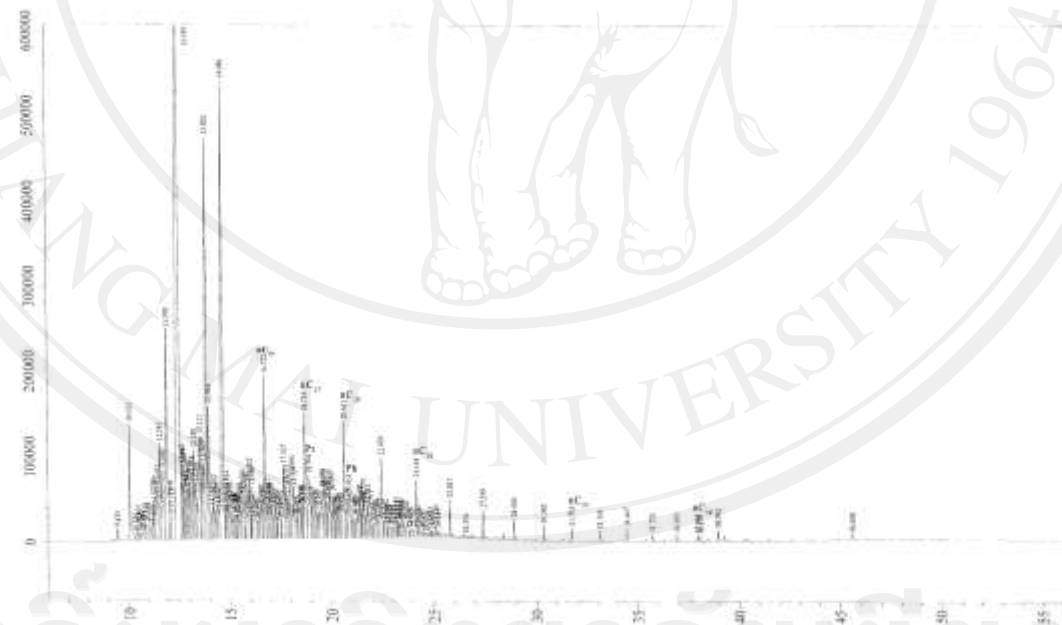
**Figure Ap II-11** Gas chromatography profile of *n*-alkane of sample no. 14700 from Mae Sot basin.



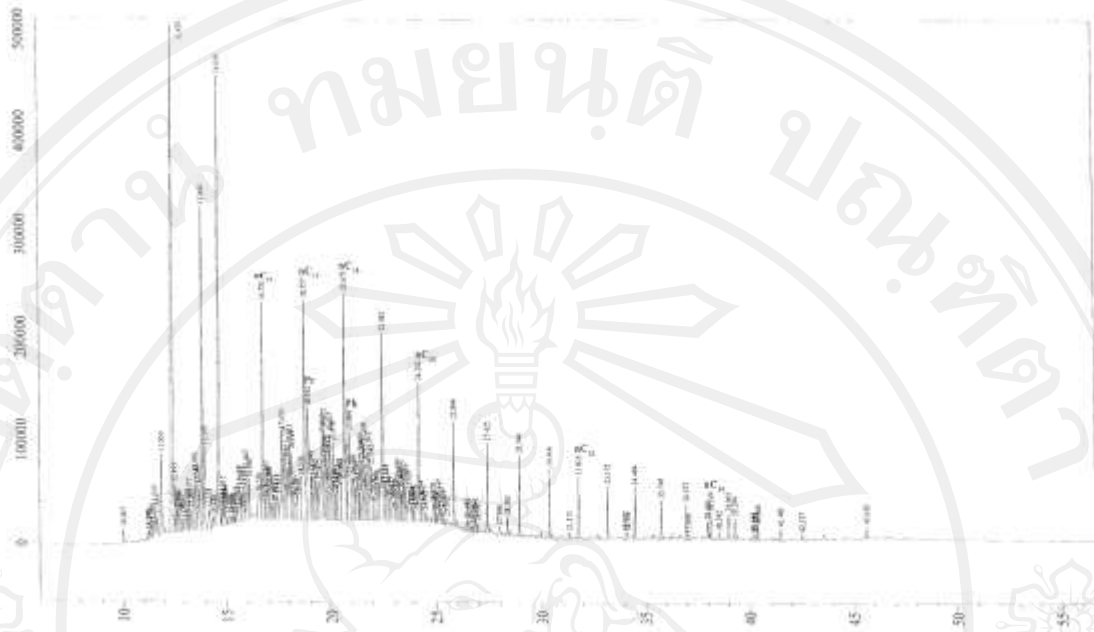
**Figure Ap II-12** Gas chromatography profile of *n*-alkane of sample no. 14702 from Mae Sot basin.



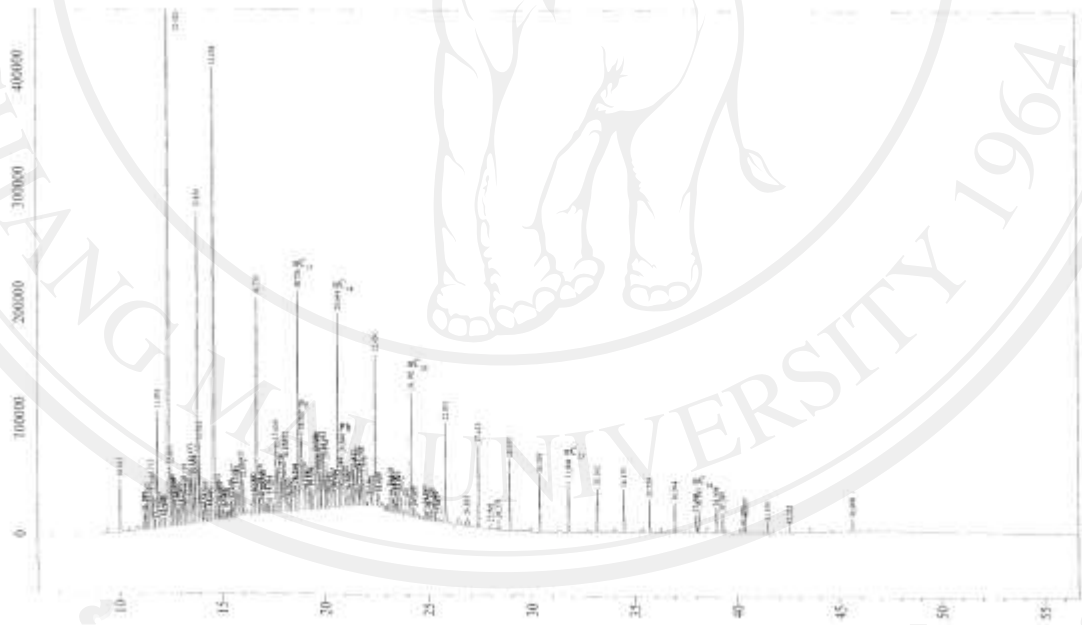
**Figure Ap II-13** Gas chromatography profile of *n*-alkane of sample no. 14730 from P-SK well from Phitsanulok basin.



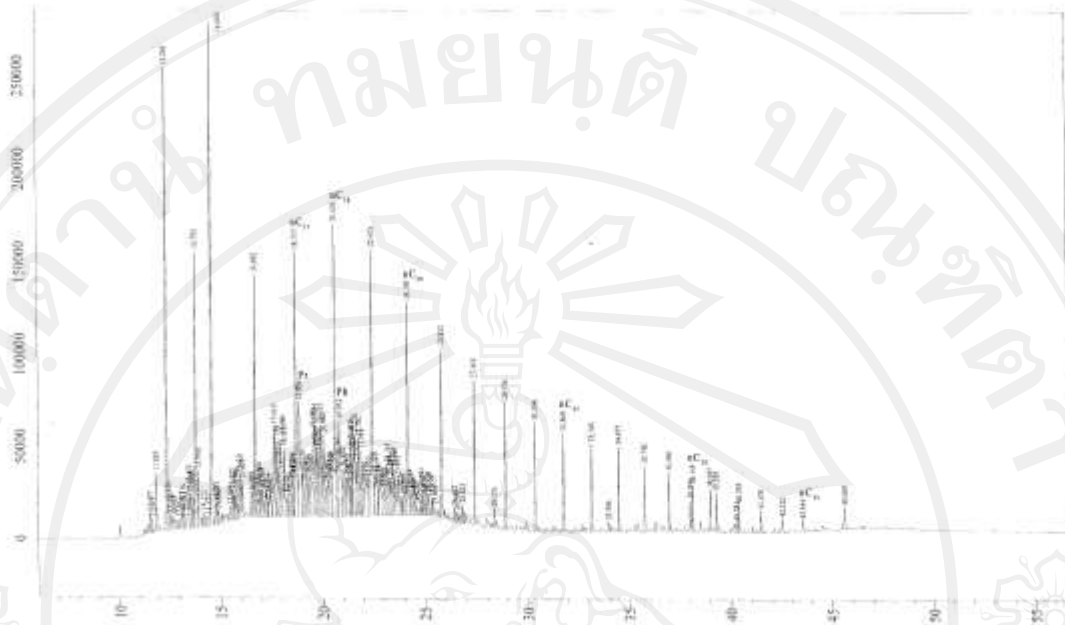
**Figure Ap II-14** Gas chromatography profile of *n*-alkane of sample no. 14744 from P-SK well from Phitsanulok basin.



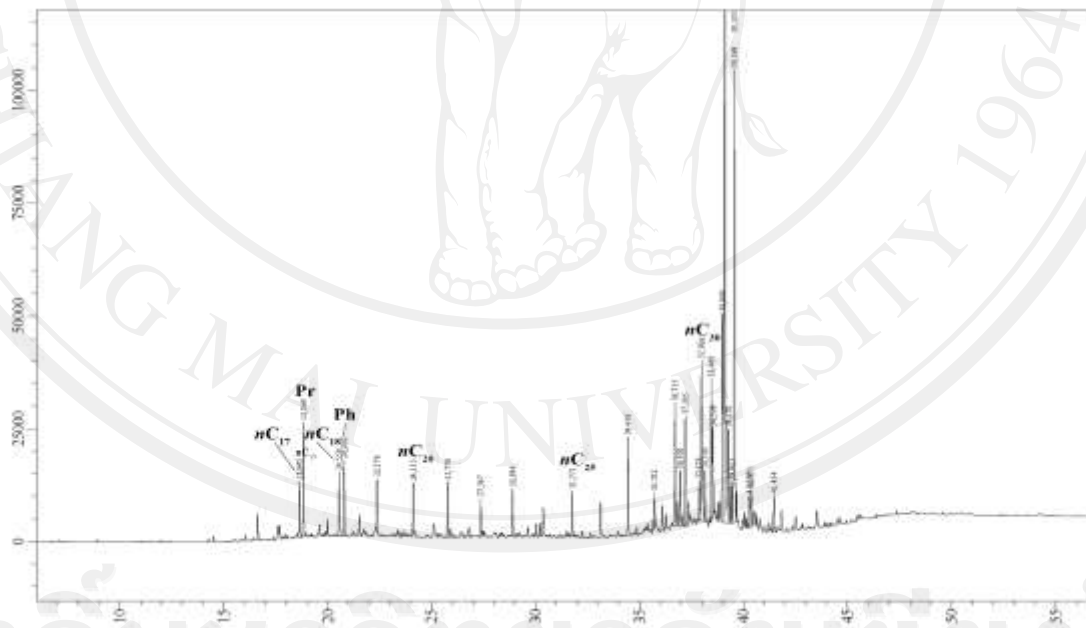
**Figure Ap II-15** Gas chromatography profile of *n*-alkane of sample no. 14755 from P-SK well from Phitsanulok basin.



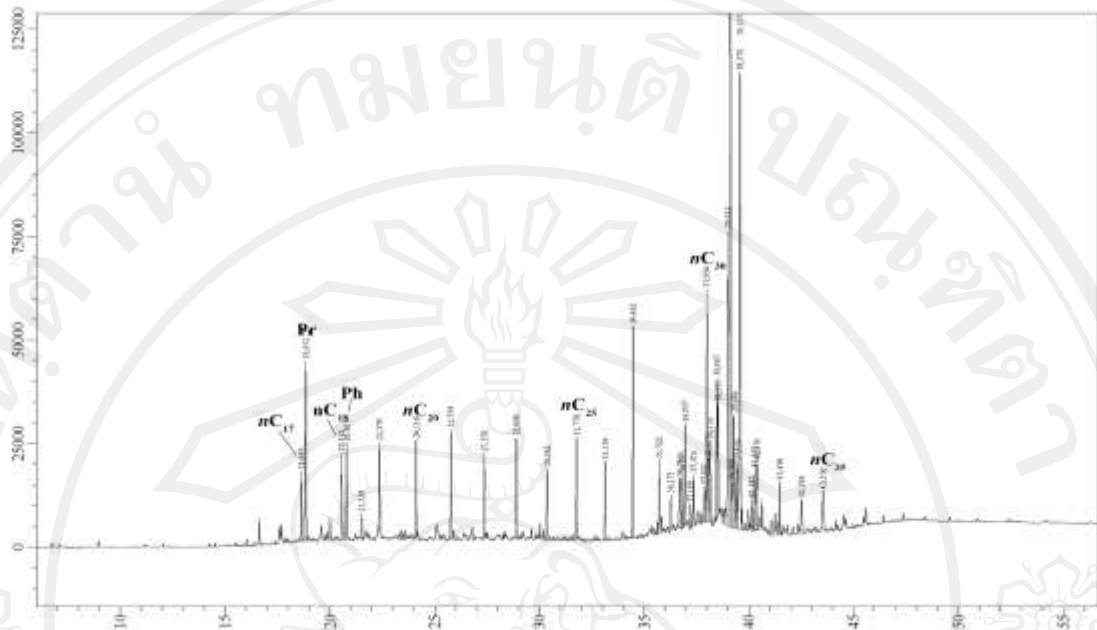
**Figure Ap II-16** Gas chromatography profile of *n*-alkane of sample no. 14759 from P-SK well from Phitsanulok basin.



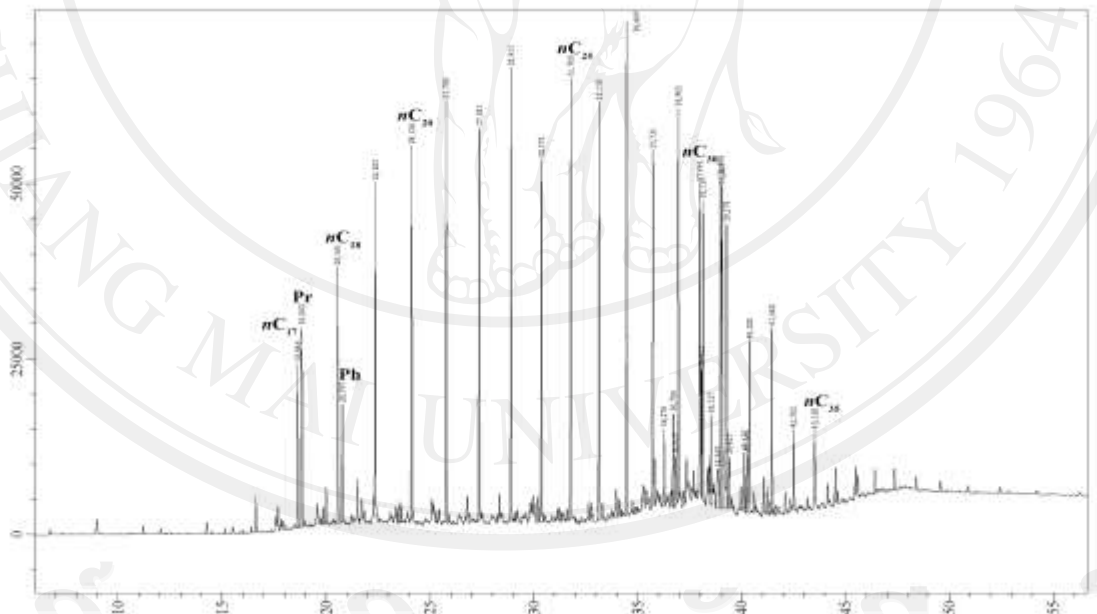
**Figure Ap II-17** Gas chromatography profile of *n*-alkane of sample no. 14761 from P-SK well from Phitsanulok basin.



**Figure Ap II-18** Gas chromatography profile of *n*-alkane of sample no. 11726 from SP1 well from Suphanburi basin.

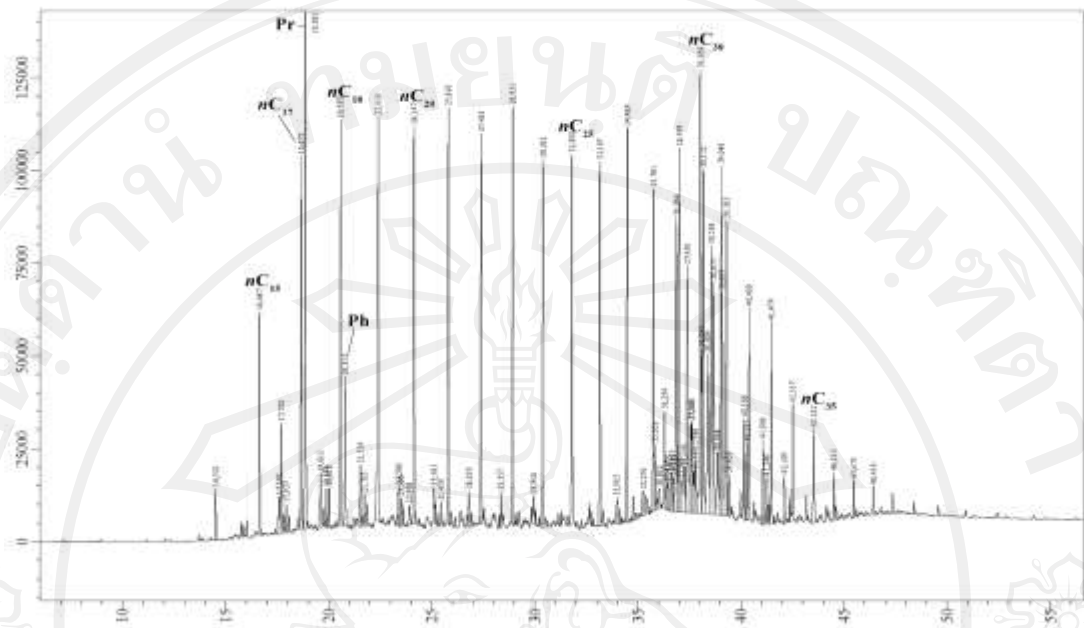


**Figure Ap II-19** Gas chromatography profile of *n*-alkane of sample no. 11731 from SP1 well from Suphanburi basin.

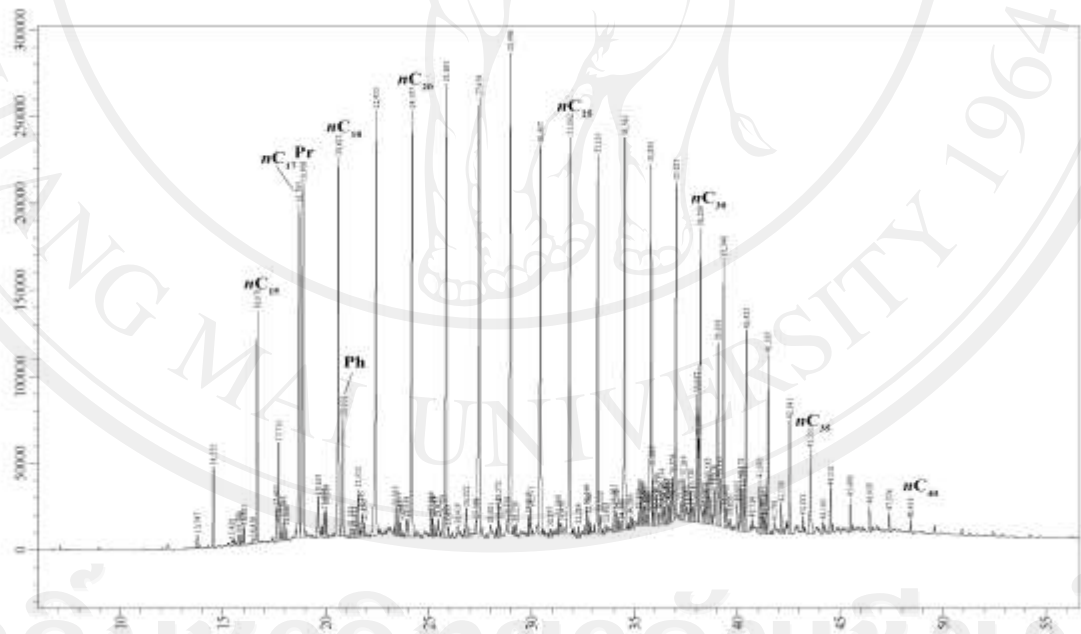


**Figure Ap II-20** Gas chromatography profile of *n*-alkane of sample no. 11746 from SP1 well from Suphanburi basin.

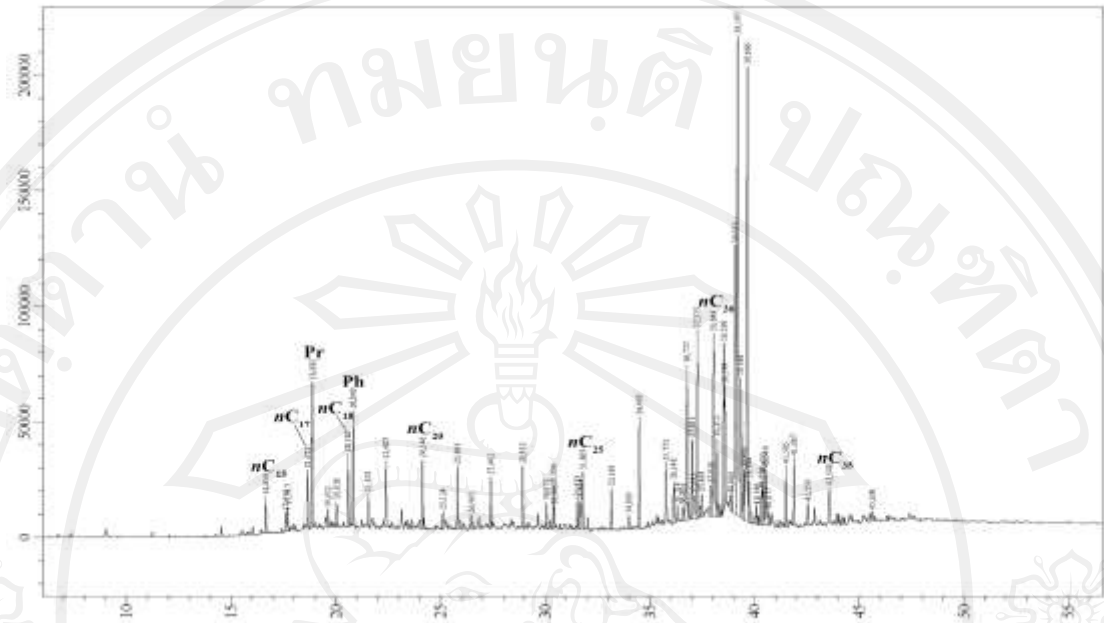




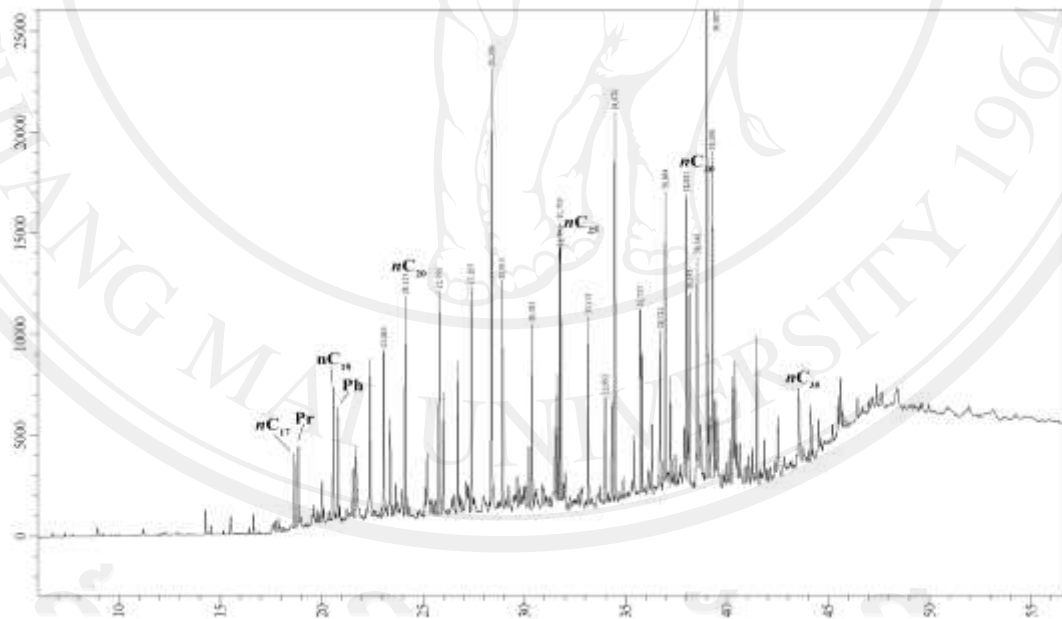
**Figure Ap II-21:** Gas chromatography profile of *n*-alkane of sample no. 11754 from SP1 well from Suphanburi basin.



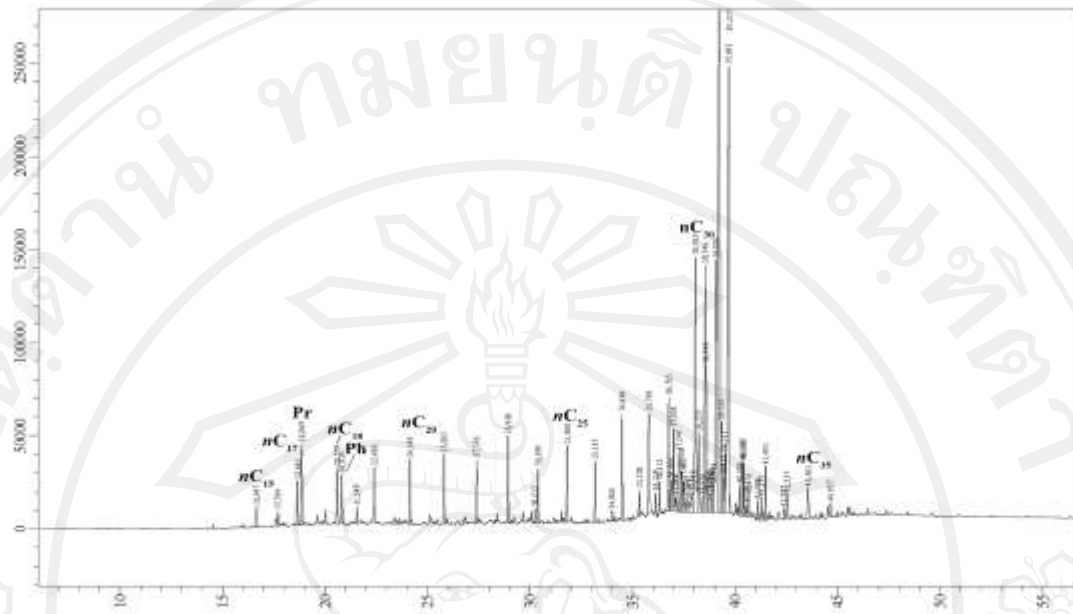
**Figure Ap II-22** Gas chromatography profile of *n*-alkane of sample no. 11761 from SP1 well from Suphanburi basin.



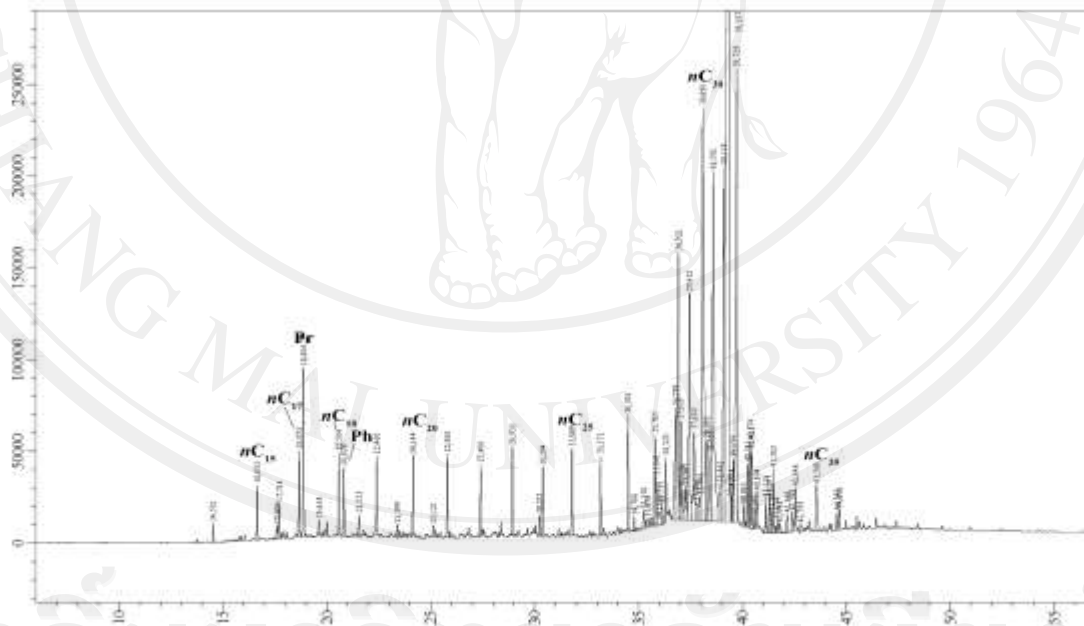
**Figure Ap II-23** Gas chromatography profile of *n*-alkane of sample no. 11799 from SP2 well from Suphanburi basin.



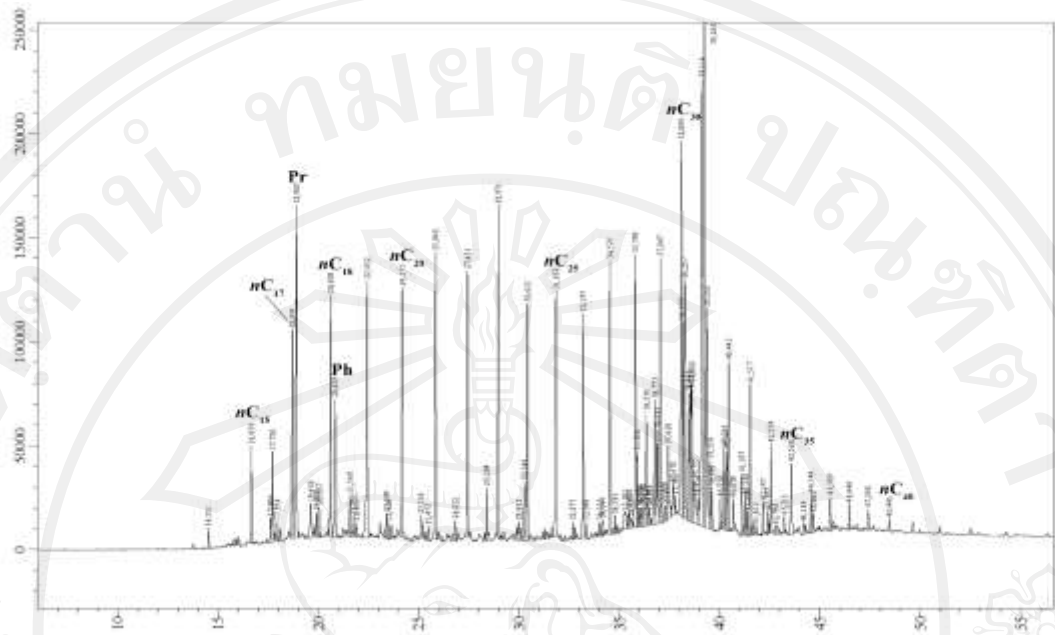
**Figure Ap II-24** Gas chromatography profile of *n*-alkane of sample no. 11810 from SP2 well from Suphanburi basin.



**Figure Ap II-25** Gas chromatography profile of *n*-alkane of sample no. 11817 from SP2 well from Suphanburi basin.



**Figure Ap II-26** Gas chromatography profile of *n*-alkane of sample no. 11823 from SP2 well from Suphanburi basin.



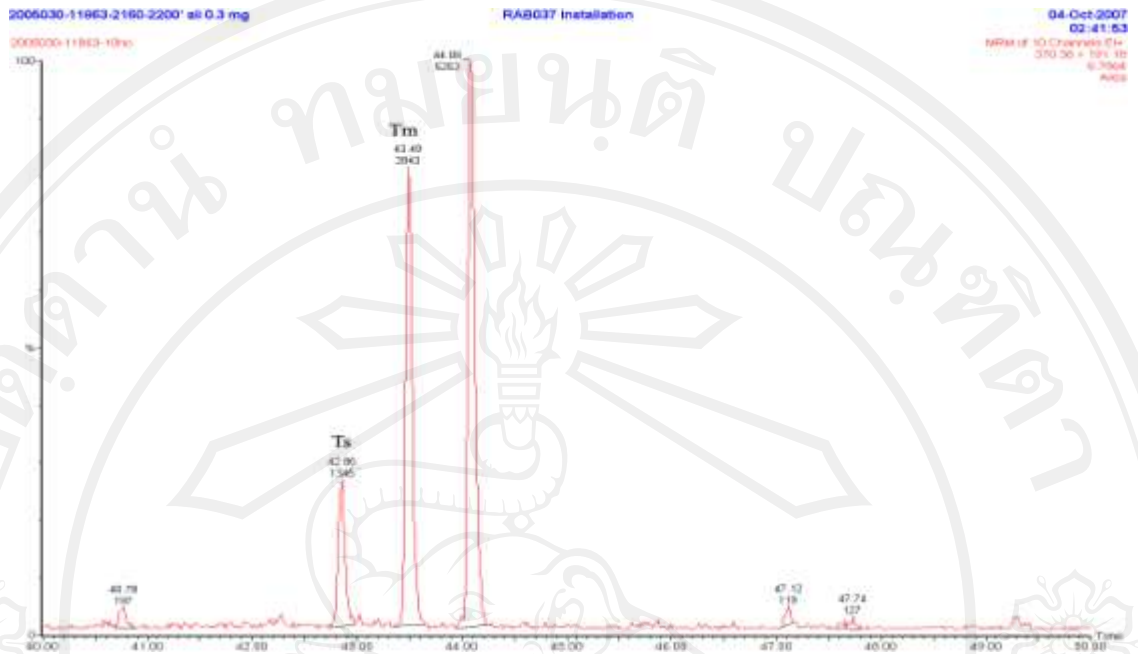
**Figure Ap II-27** Gas chromatography profile of *n*-alkane of sample no. 11829 from SP2 well from Suphanburi basin.



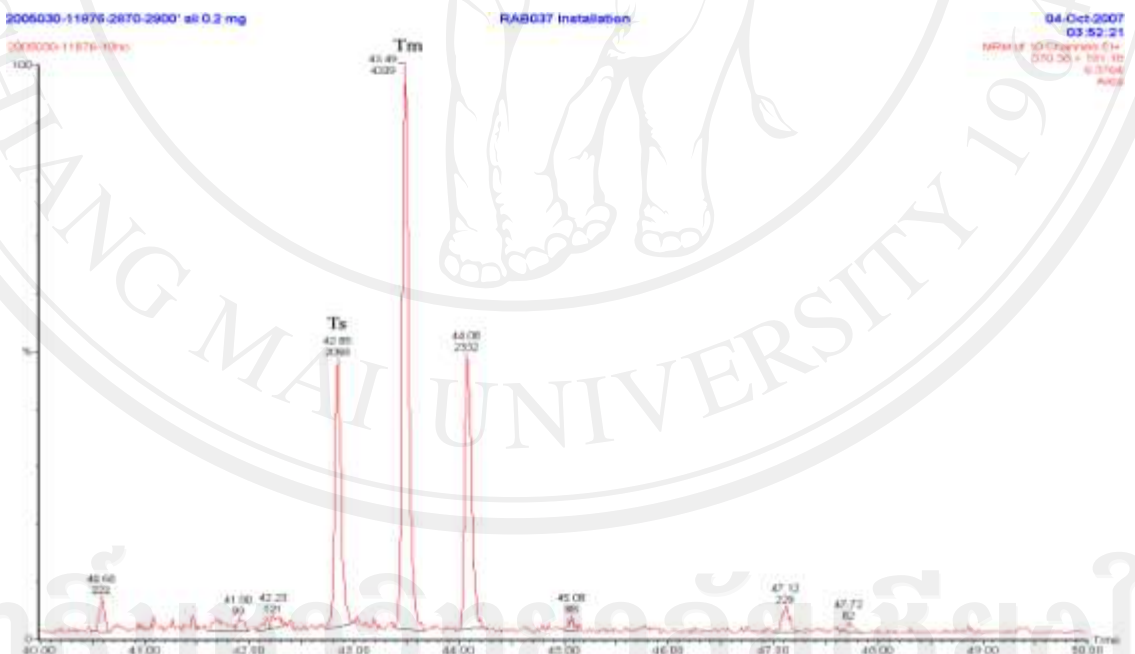
**APPENDIX C**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

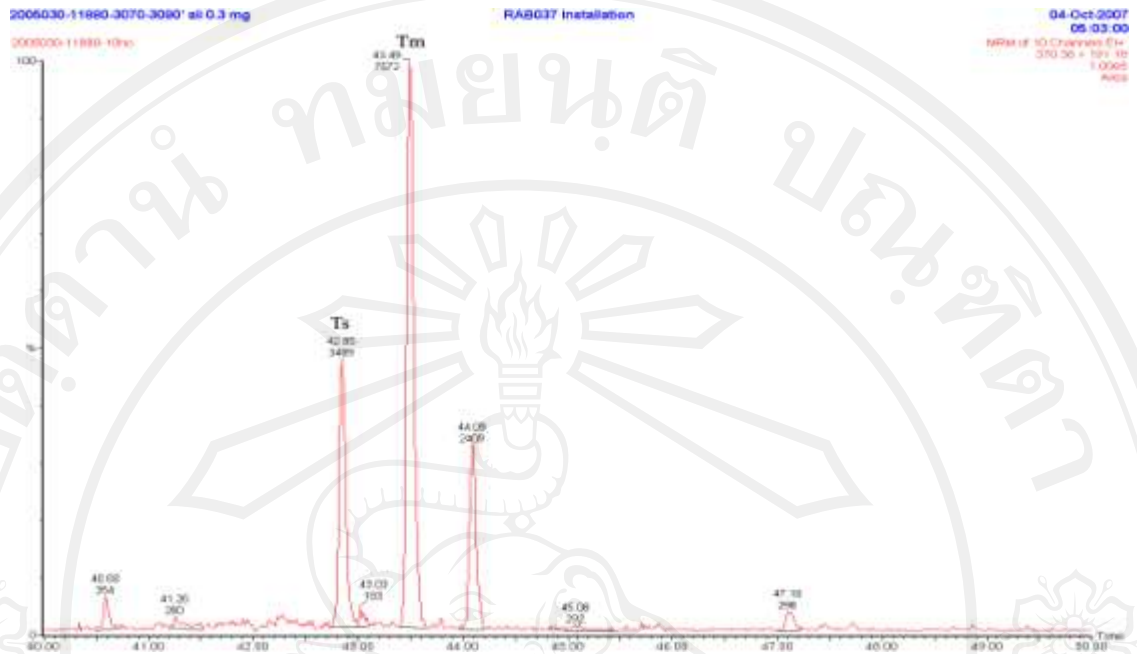
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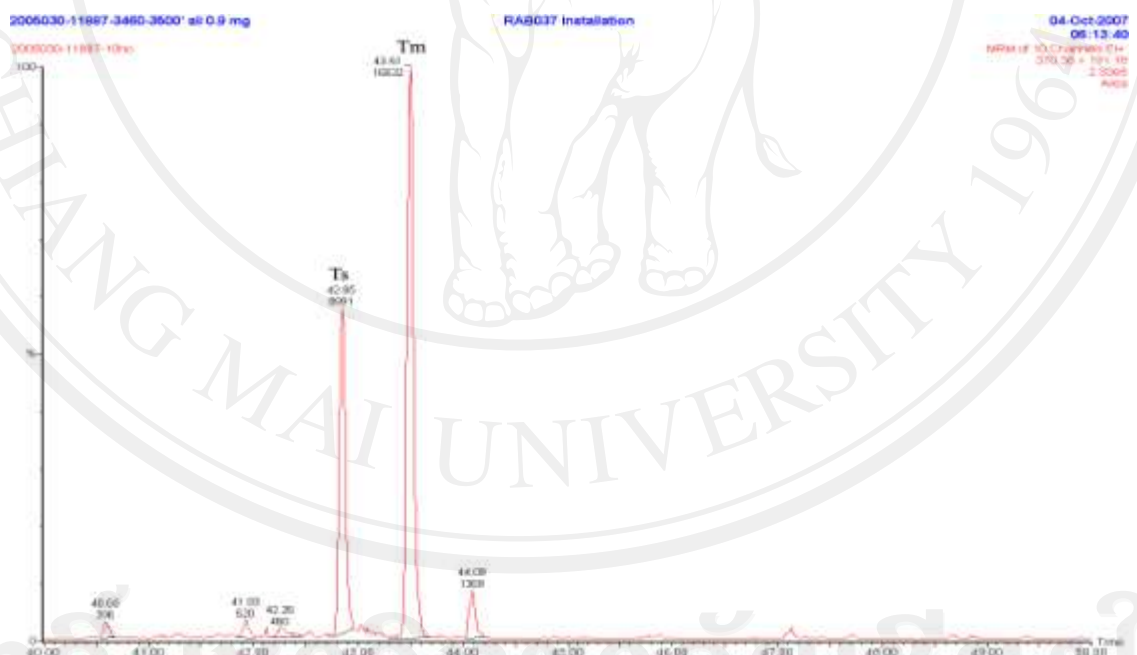
**Figure Ap-III.1** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11863 of Fang-MS well.



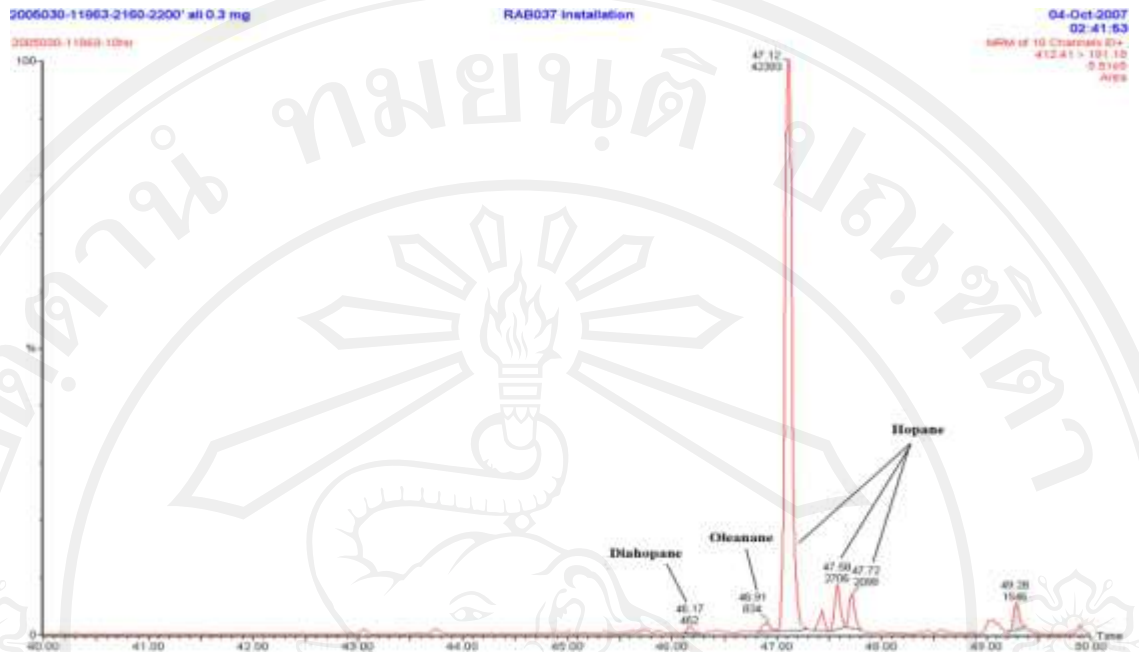
**Figure Ap-III.2** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11876 of FANG-MS well.



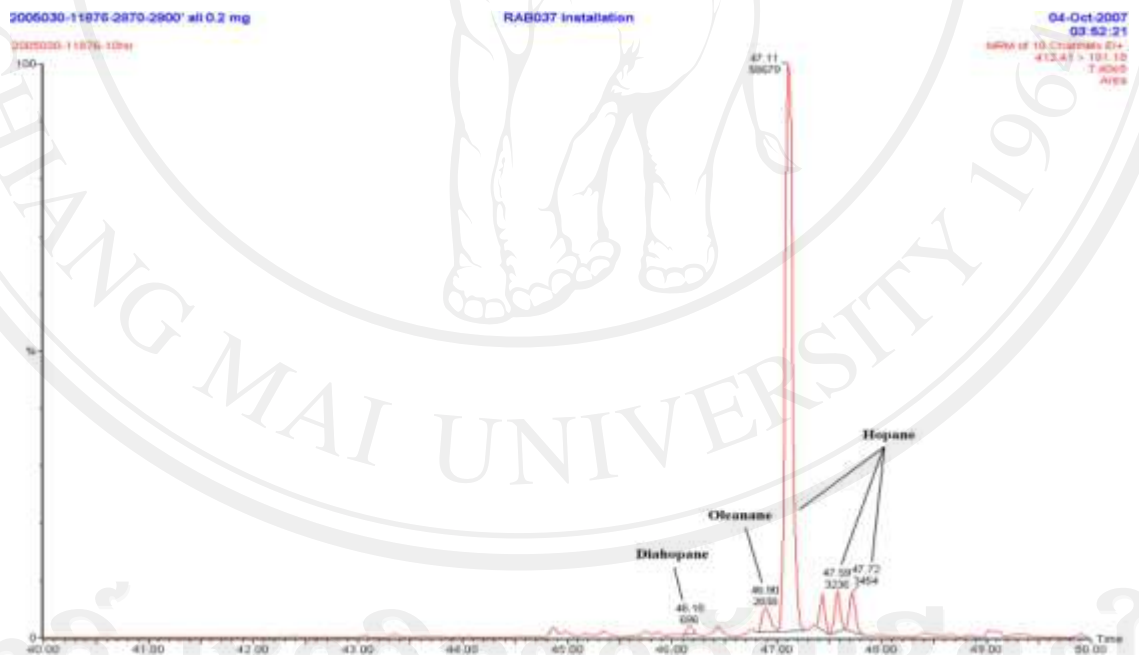
**Figure Ap-III.3** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11880 of Fang-MS well.



**Figure Ap-III.4** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11887 of Fang-MS well.

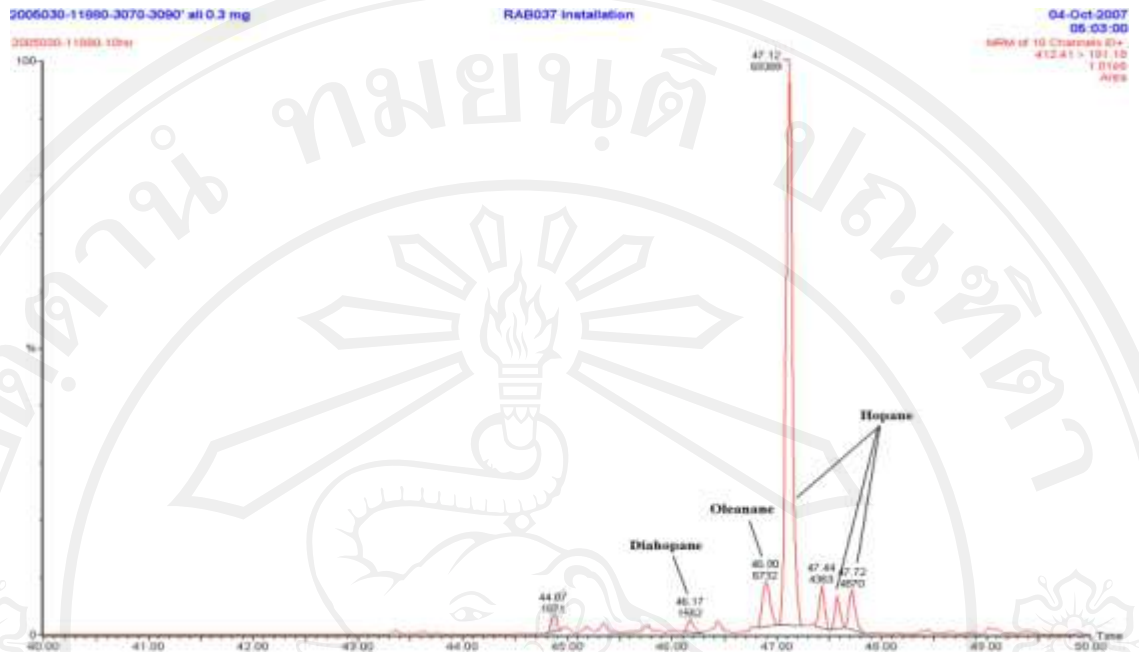


**Figure Ap-III.5** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 11863 of Fang-MS well.

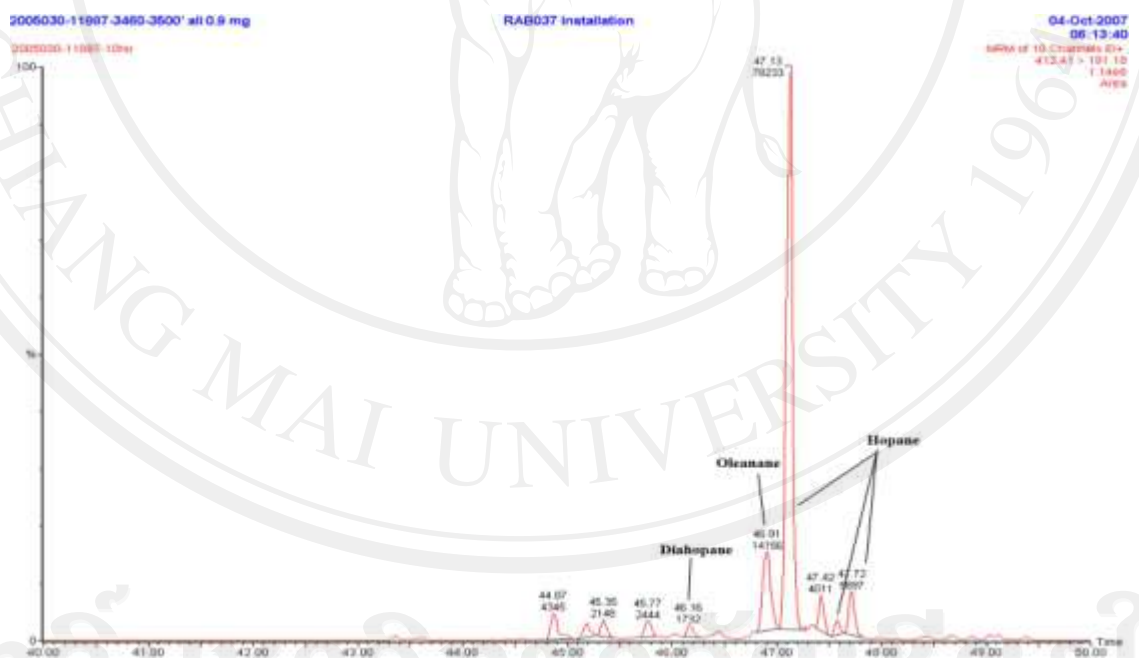


**Figure Ap-III.6** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 11876 of Fang-MS well.

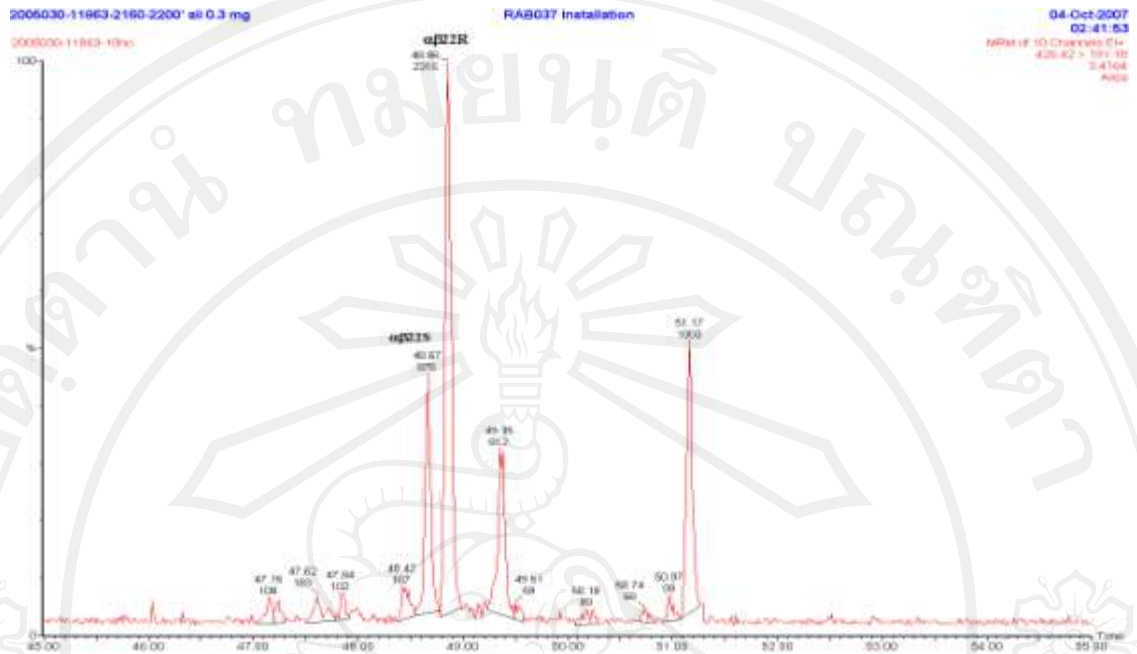




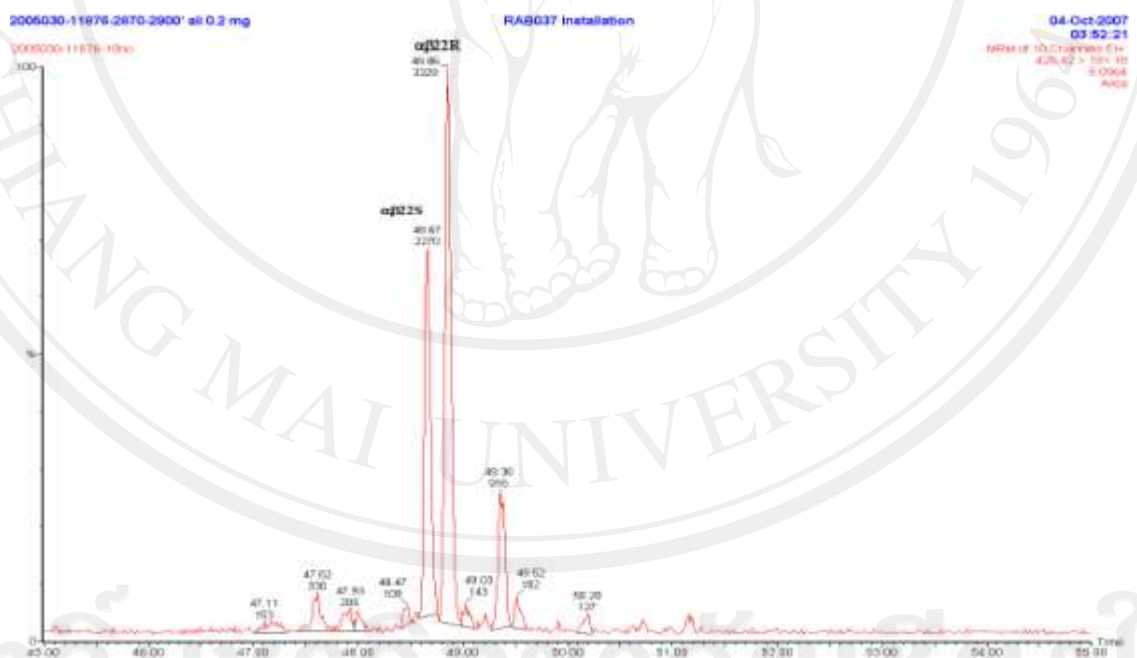
**Figure Ap-III.7** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 11880 of Fang-MS well.



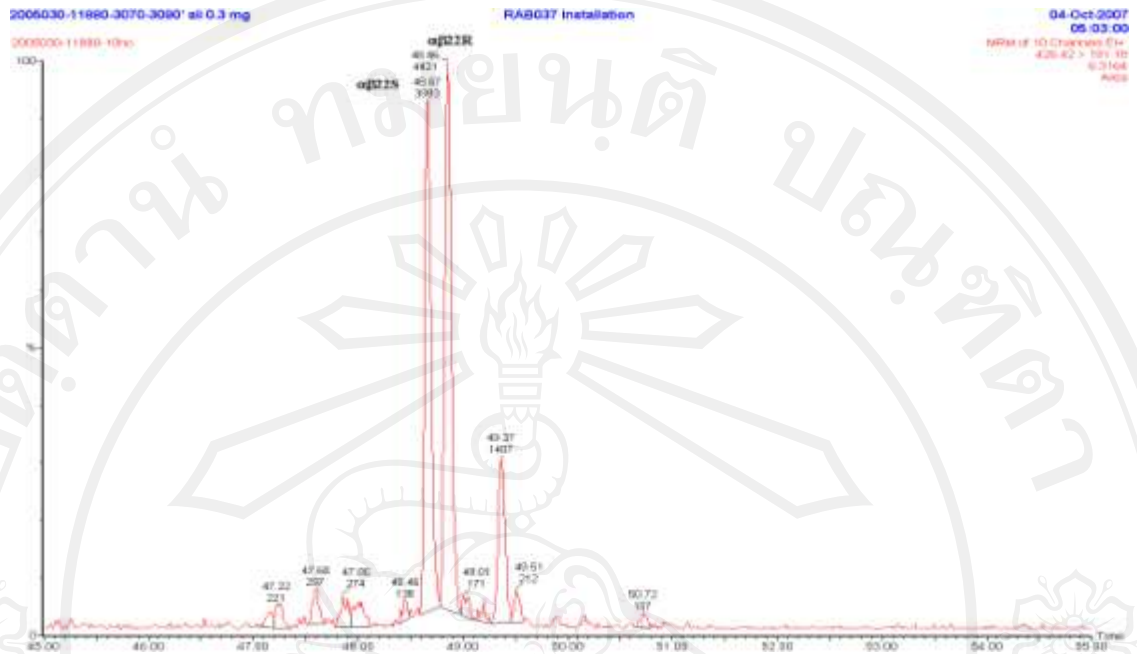
**Figure Ap-III.8** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 11887 of Fang-MS well.



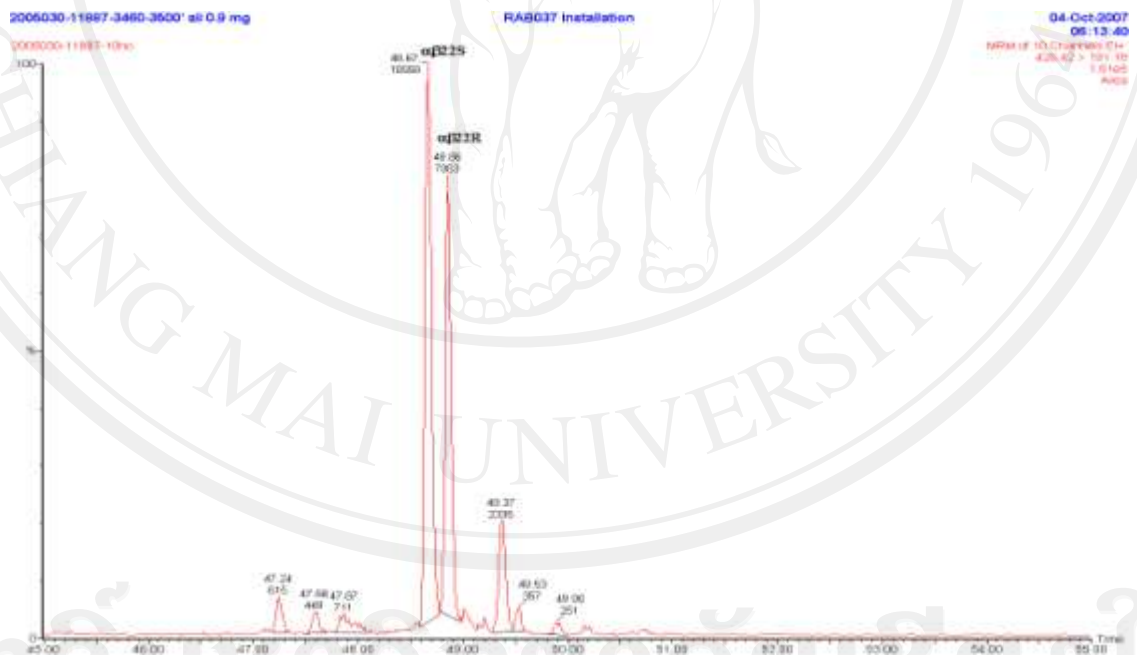
**Figure Ap-III.9** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11863 of Fang-MS well.



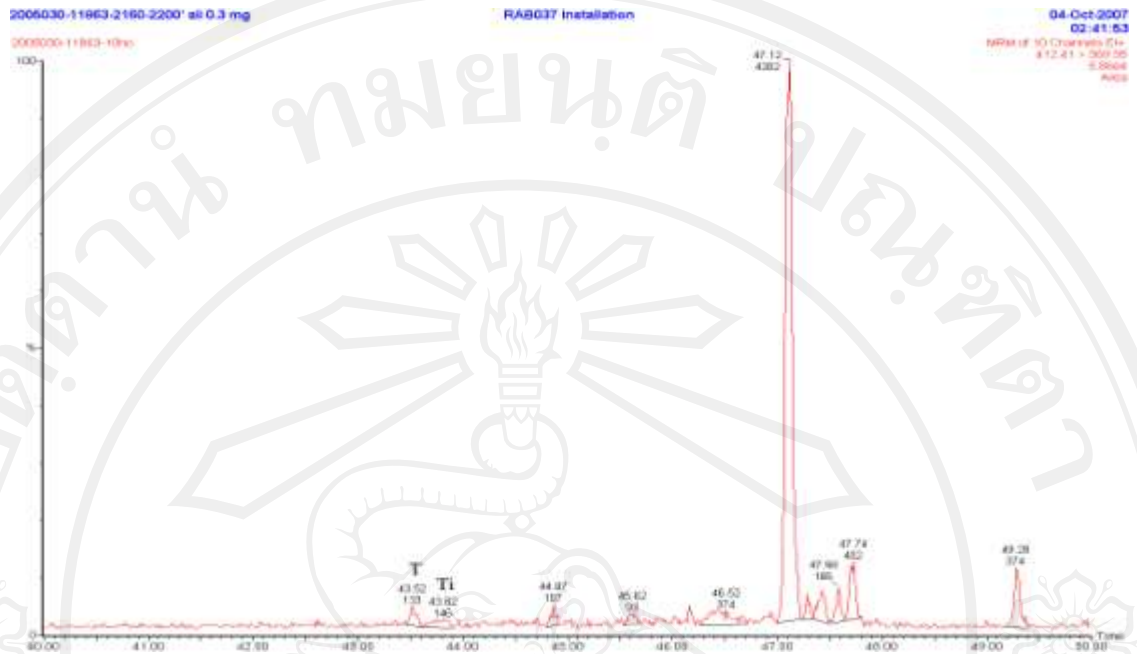
**Figure Ap-III.10:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11876 of FANG-MS well.



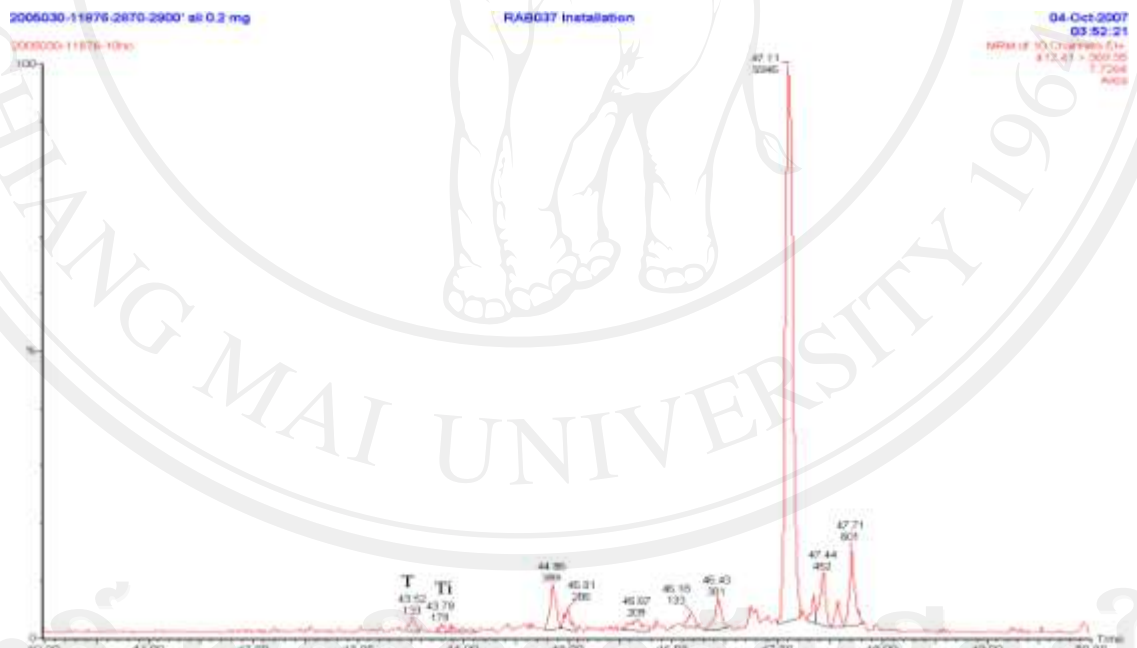
**Figure Ap-III.11:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 11880 of FANG-MS well.



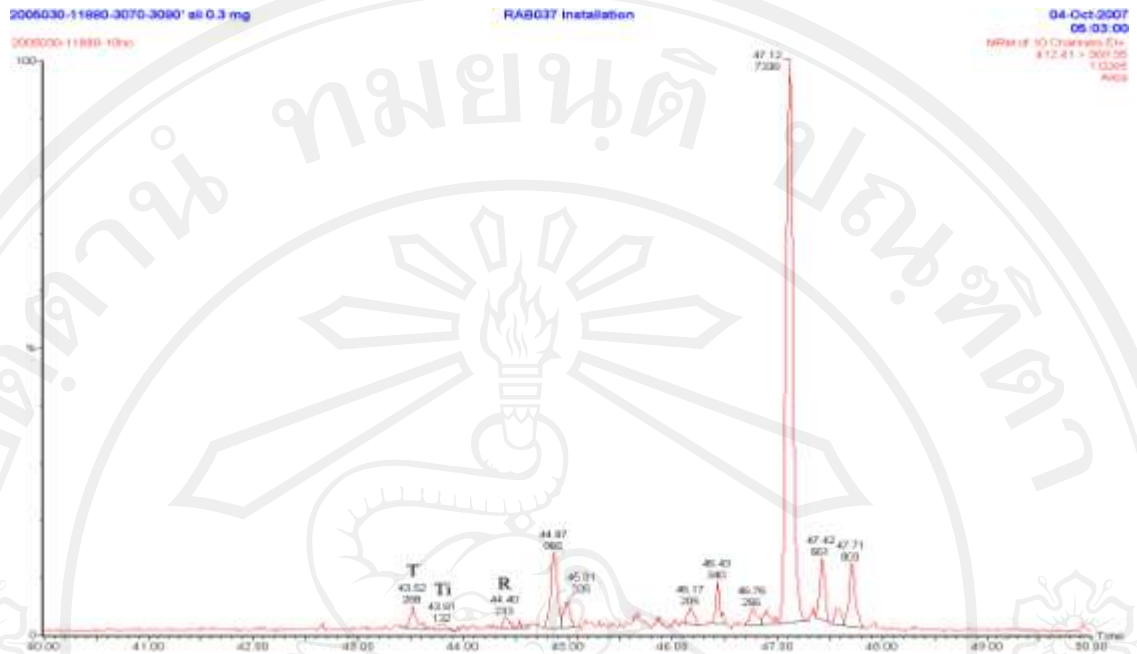
**Figure Ap-III.12:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 11887 of FANG-MS well.



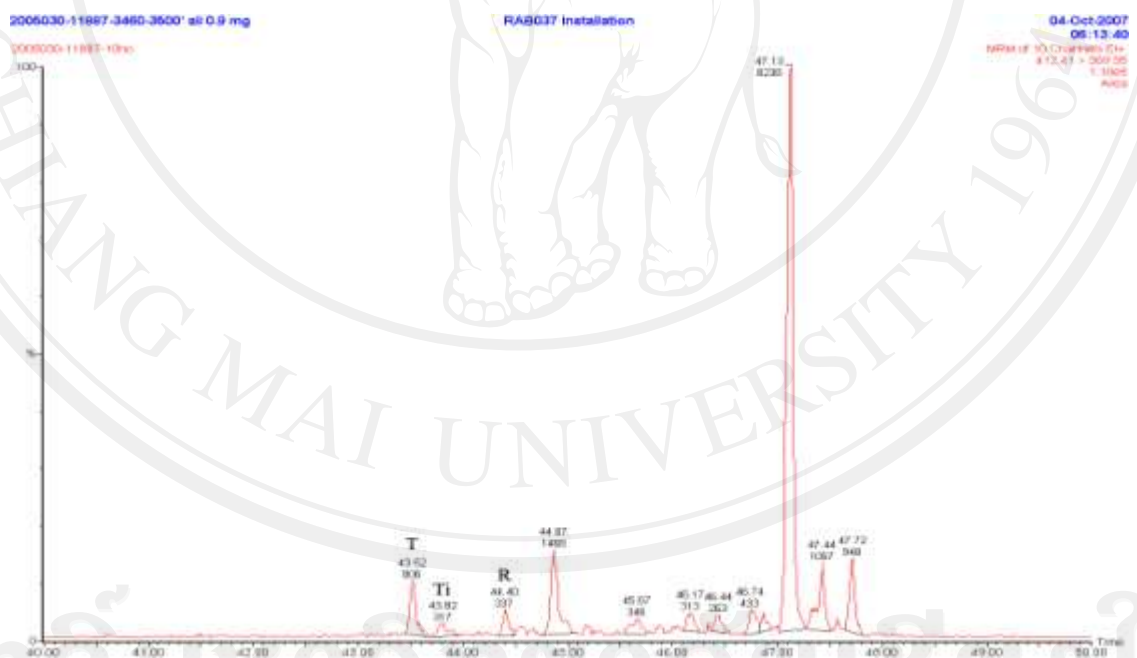
**Figure Ap-III.13:** 412→369 transition shows the distribution of bicadinanes in the sample 11863 of FANG-MS well.



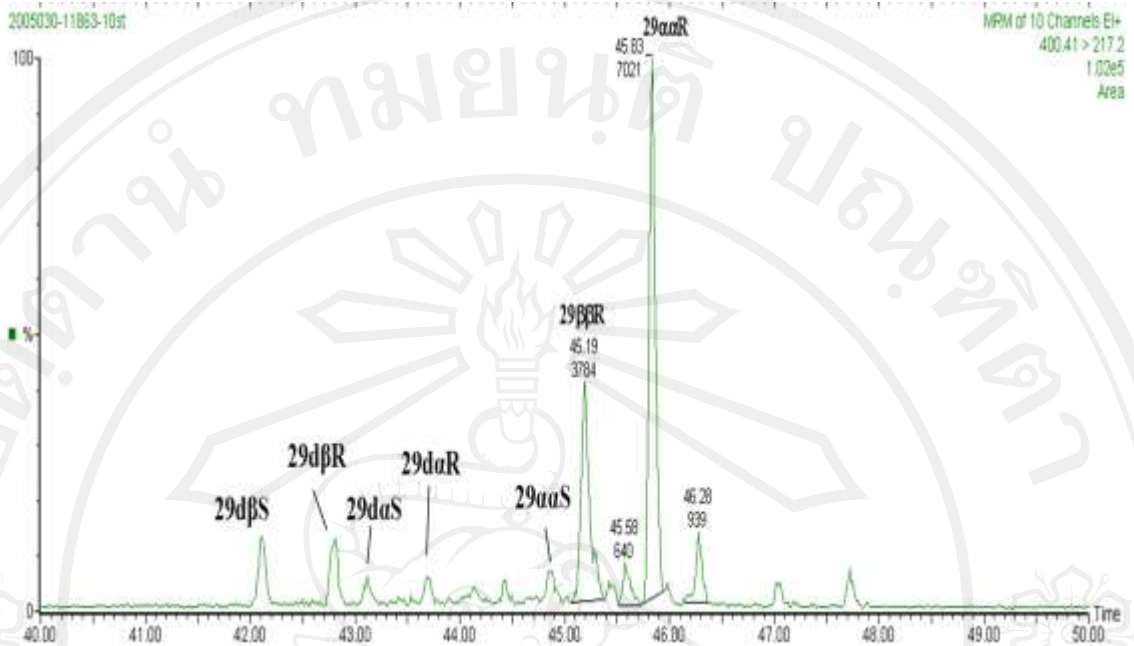
**Figure Ap-III.14:** 412→369 transition shows the distribution of bicadinanes in the sample 11876 of FANG-MS well.



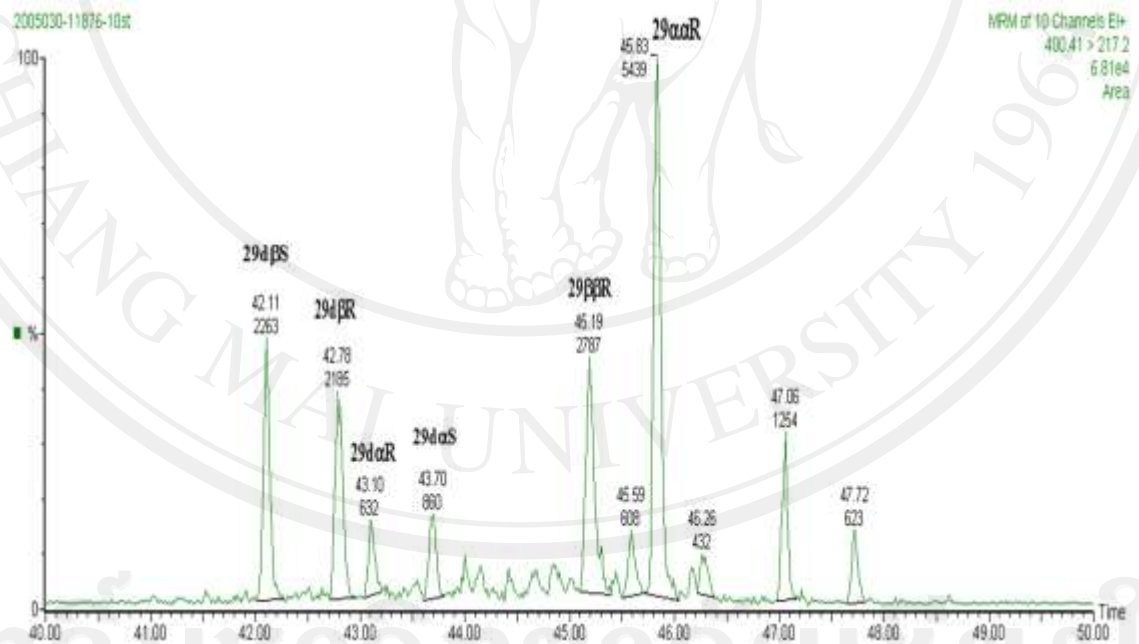
**Figure Ap-III.15:** 412→369 transition shows the distribution of bicadinanes in the sample 11880 of FANG-MS well.



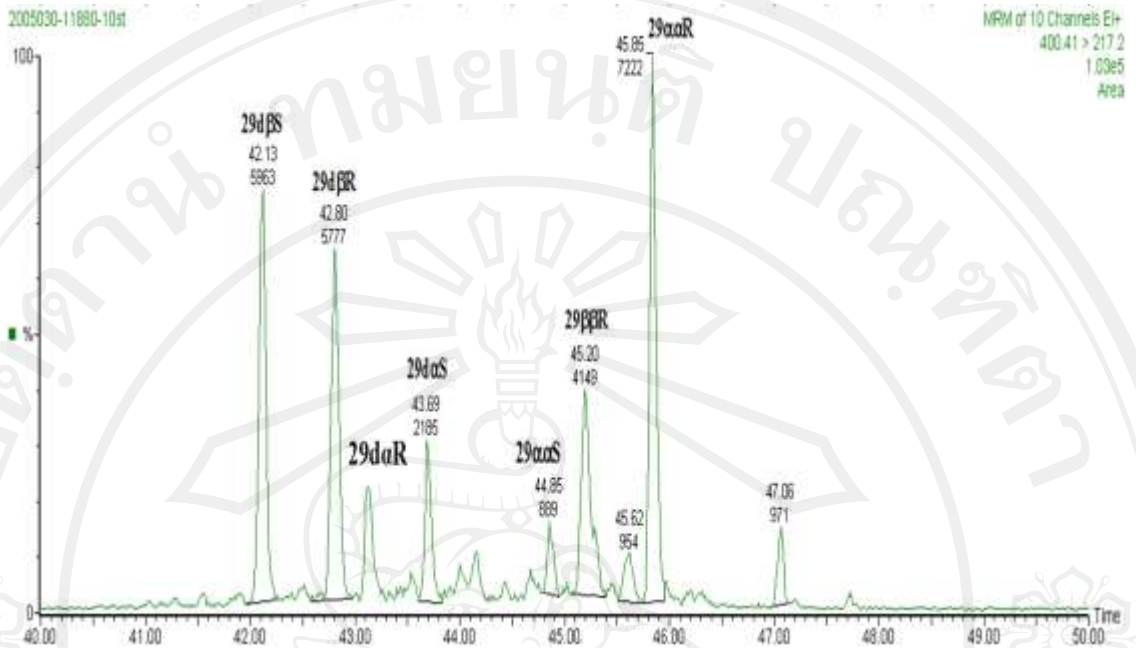
**Figure Ap-III.16:** 412→369 transition shows the distribution of bicadinanes in the sample 11887 of FANG-MS well.



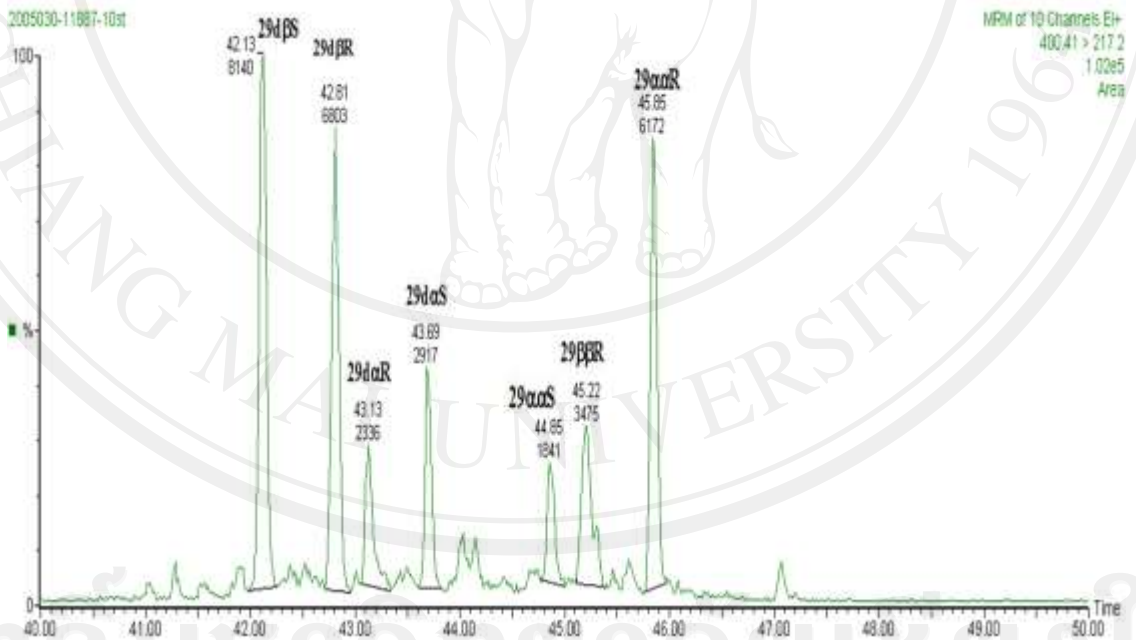
**Figure Ap-III.17:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11863 of FANG-MS well.



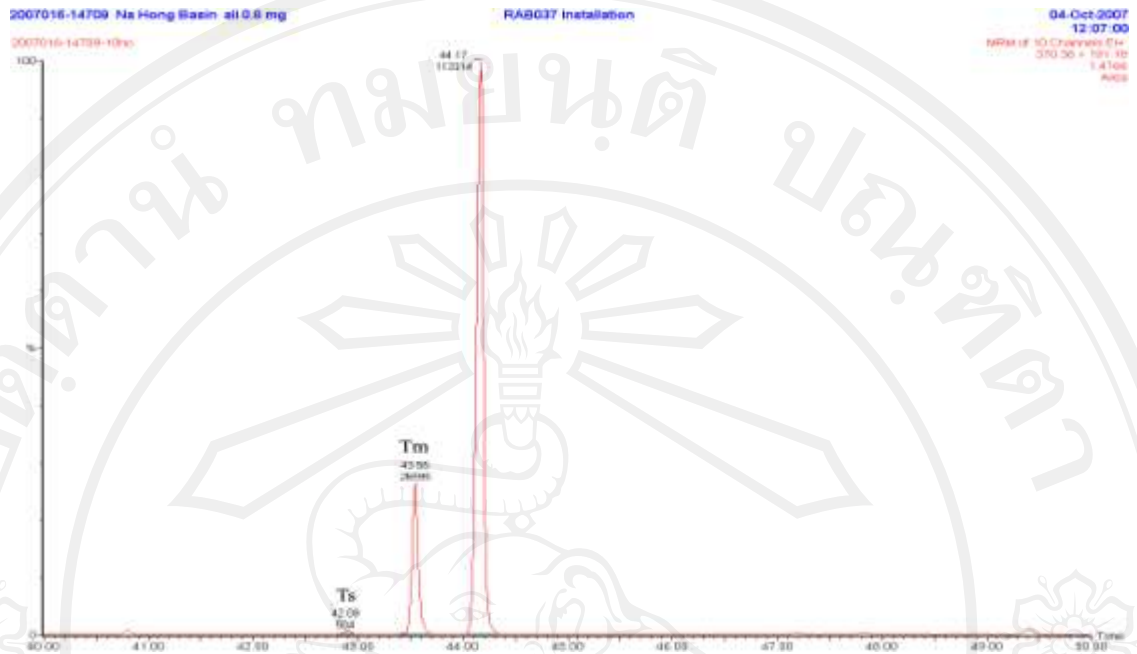
**Figure Ap-III.18:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11876 of FANG-MS well.



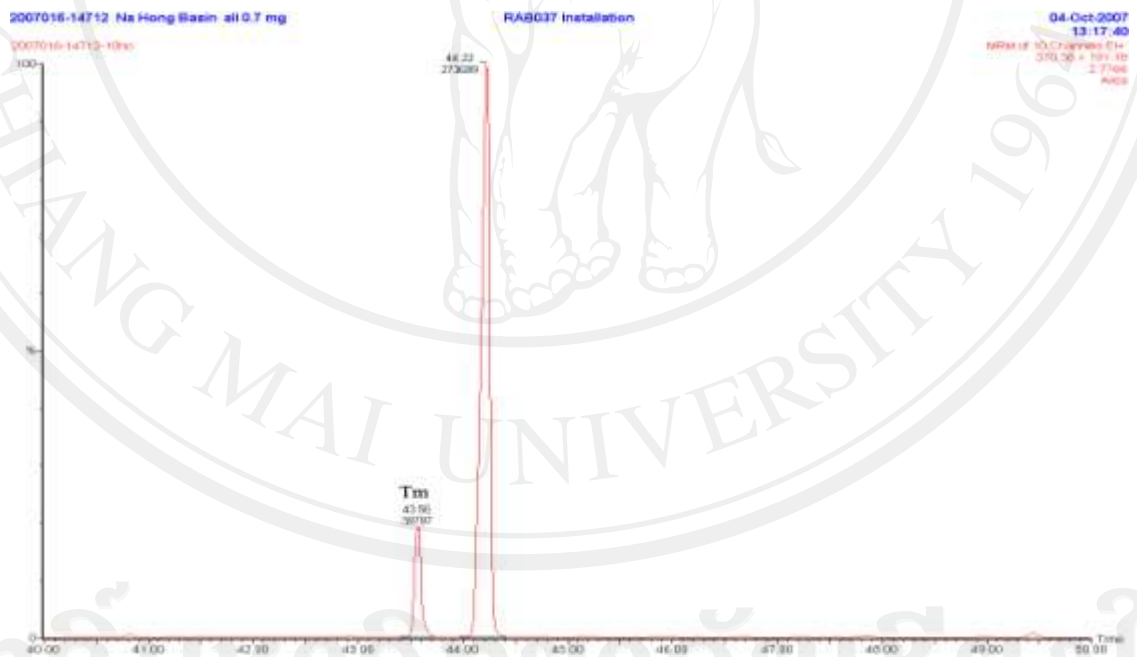
**Figure Ap-III.19:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11880 of FANG-MS well.



**Figure Ap-III.20:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11887 of FANG-MS well.

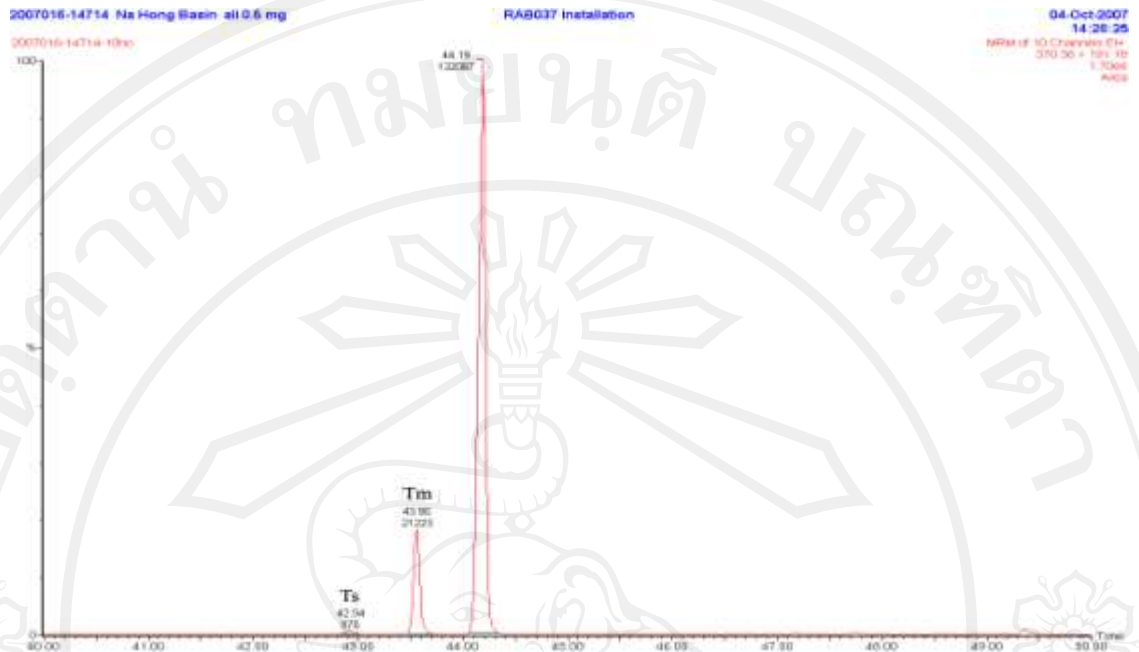


**Figure Ap-III.21:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14709 of Na Hong basin.

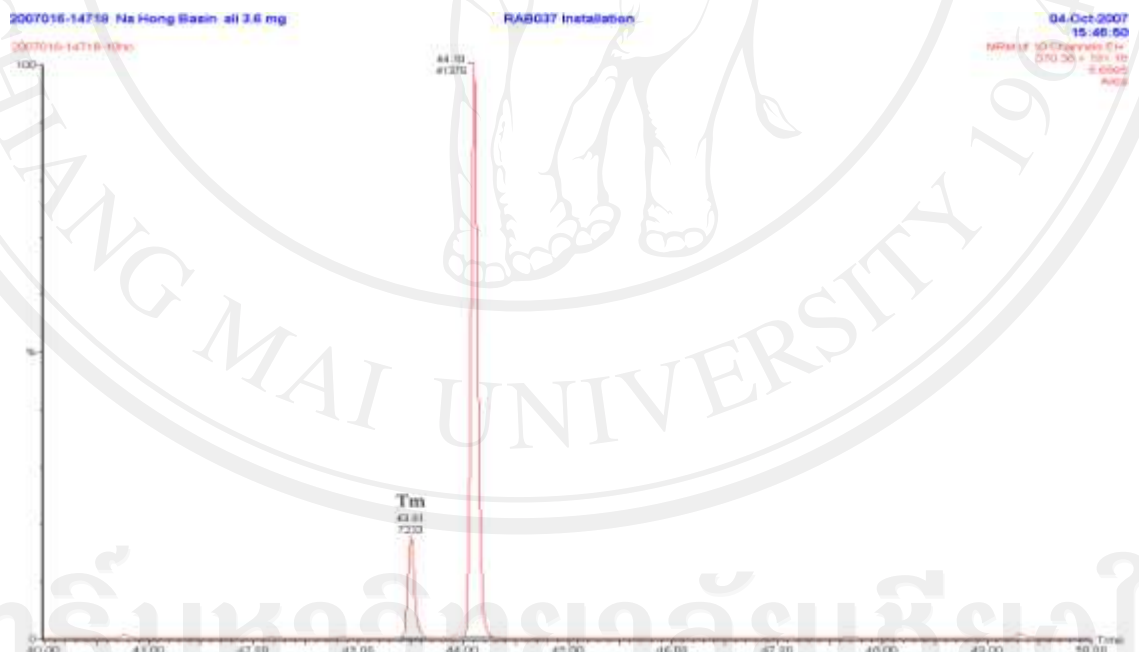


**Figure Ap-III.22:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14712 of Na Hong basin.

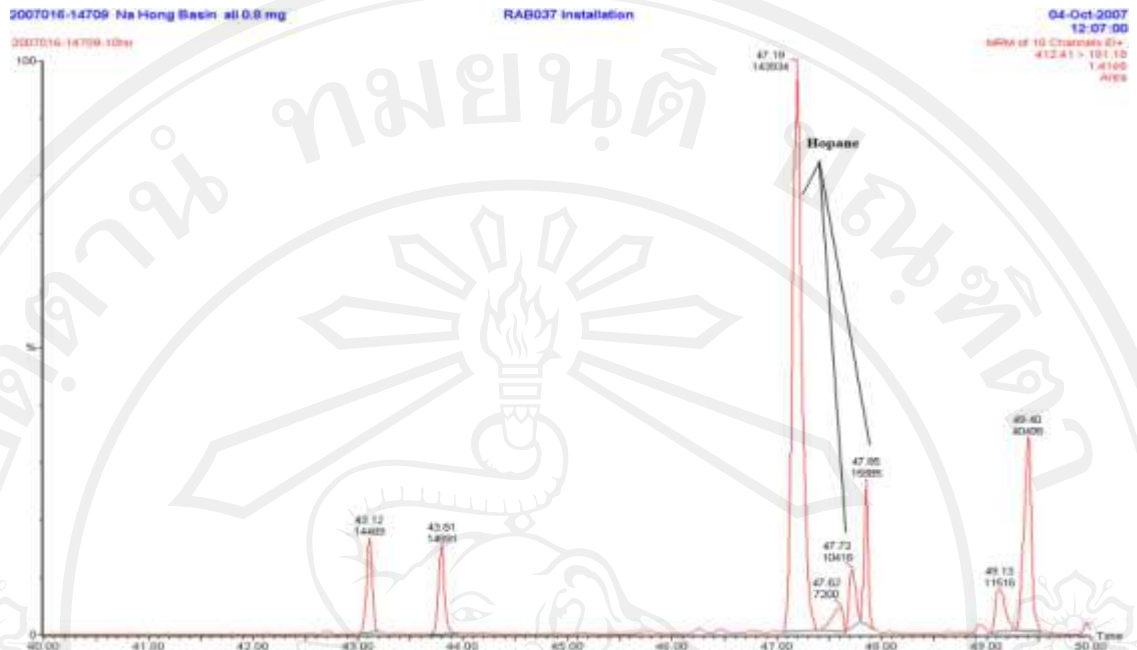




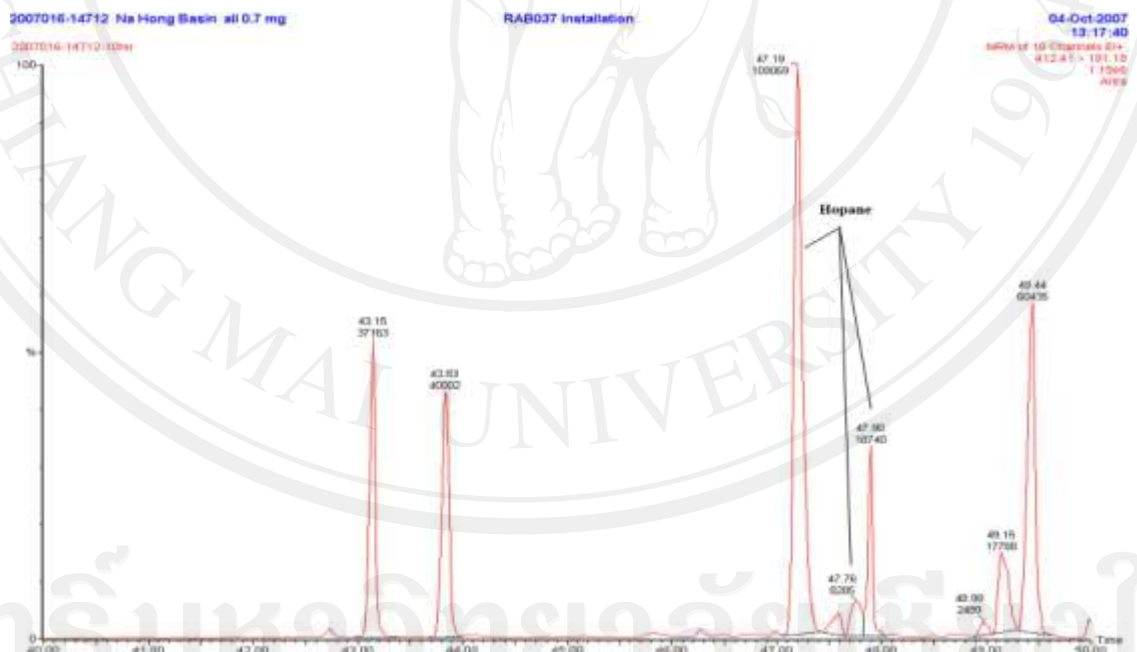
**Figure Ap-III.23:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14714 of Na Hong basin.



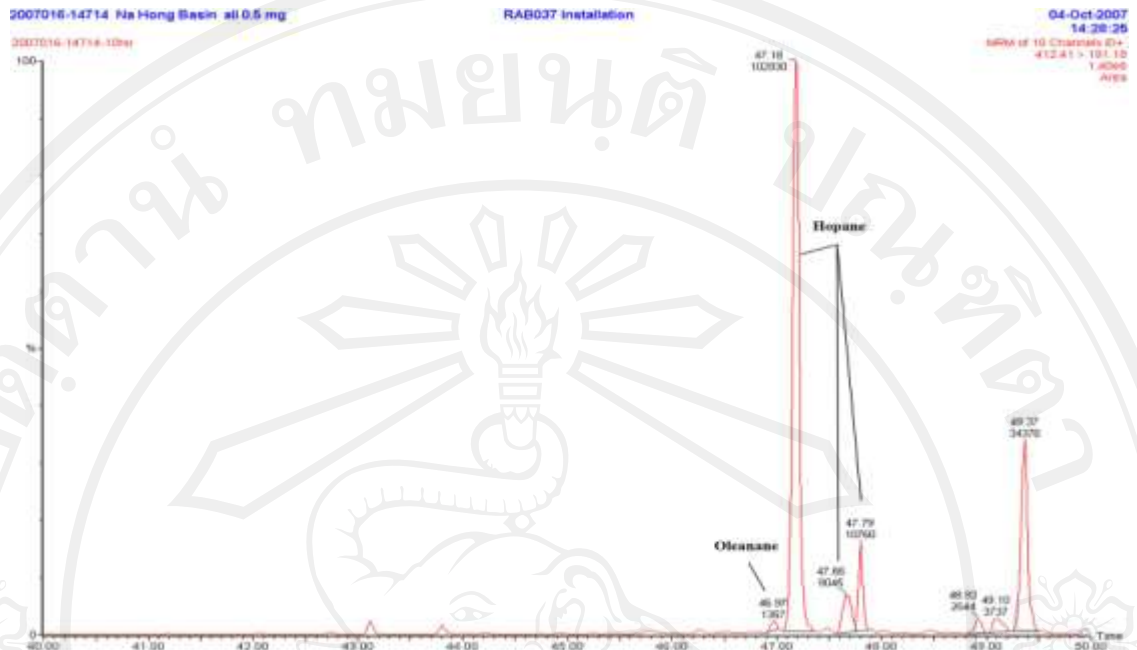
**Figure Ap-III.24:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14718 of Na Hong basin.



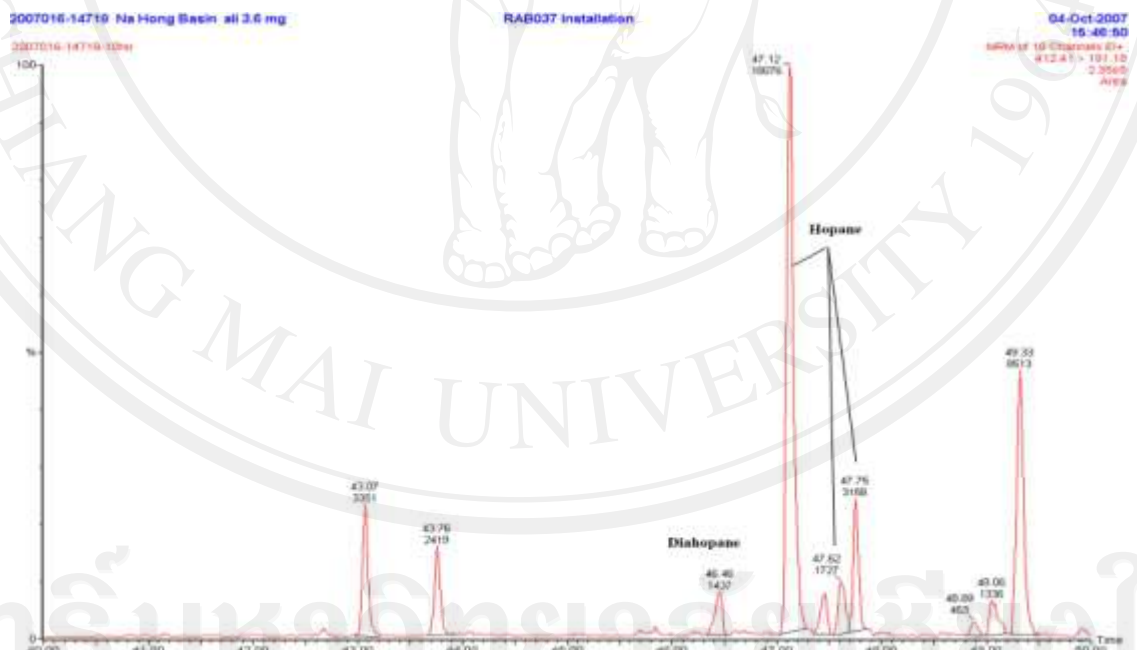
**Figure Ap-III.25:** 412→191 transitions showing saturated C<sub>30</sub> pentacyclic triterpanes in the sample 14709 of Na Hong basin.



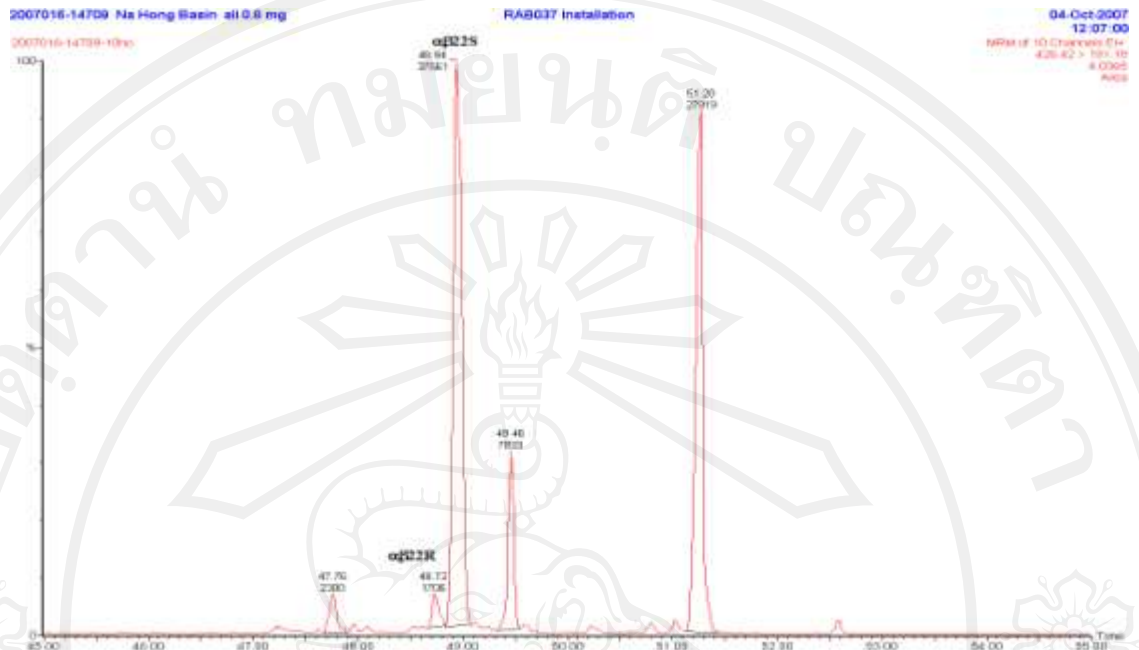
**Figure Ap-III.26:** 412→191 transitions showing saturated C<sub>30</sub> pentacyclic triterpanes in the sample 14712 of Na Hong basin.



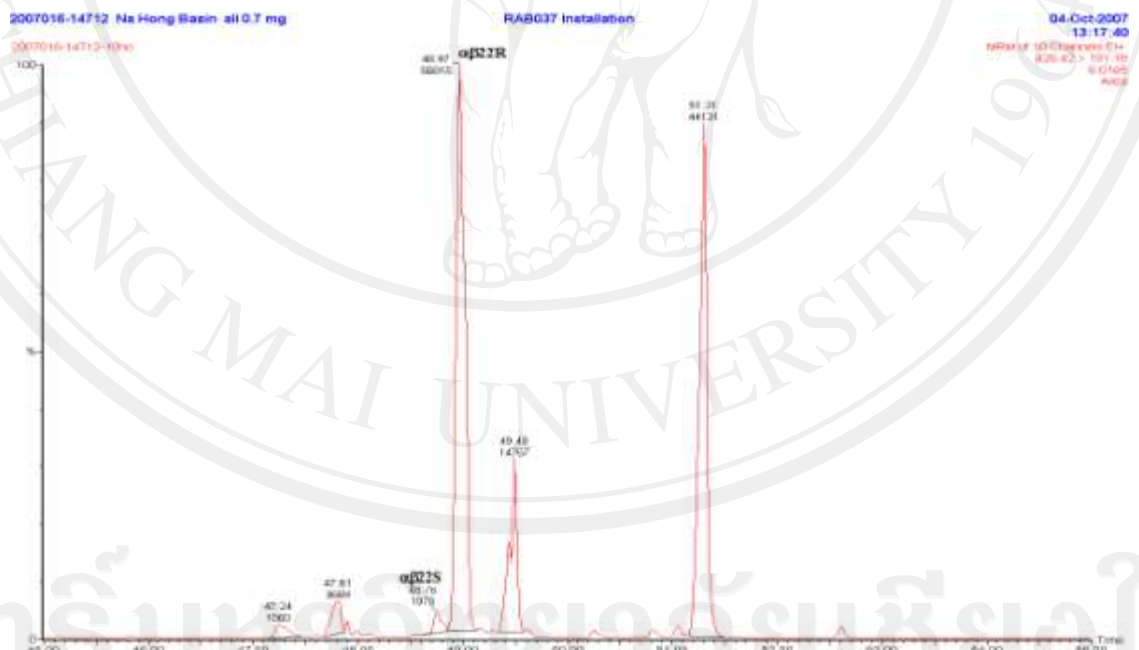
**Figure Ap-III.27:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 14714 of Na Hong basin.



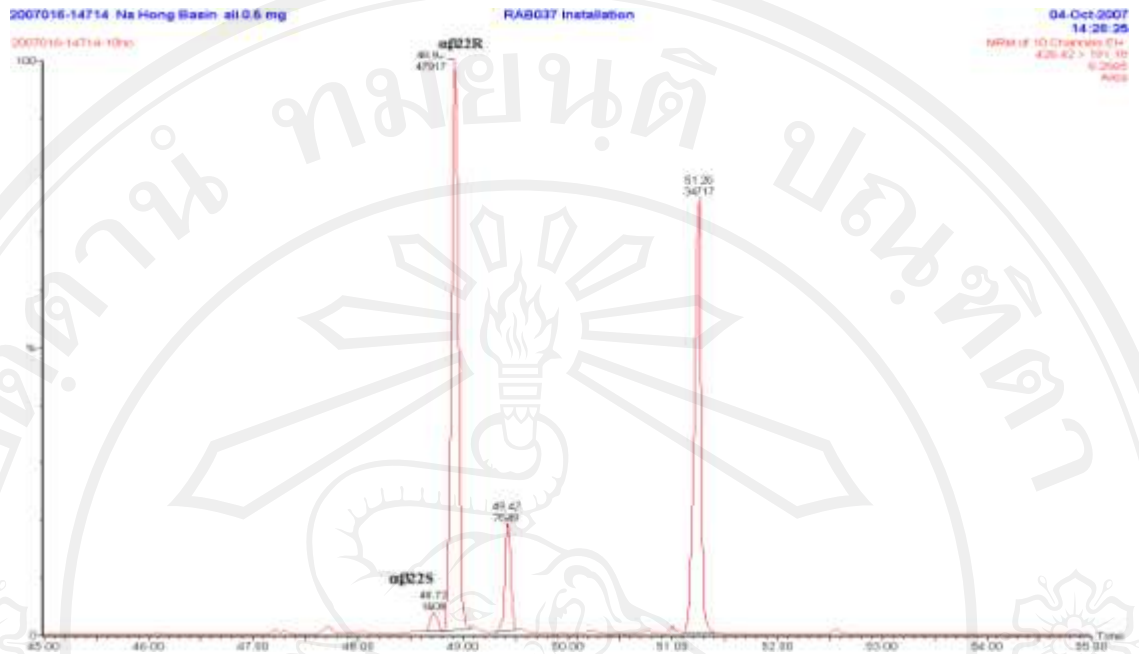
**Figure Ap-III.28:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 14718 of Na Hong basin.



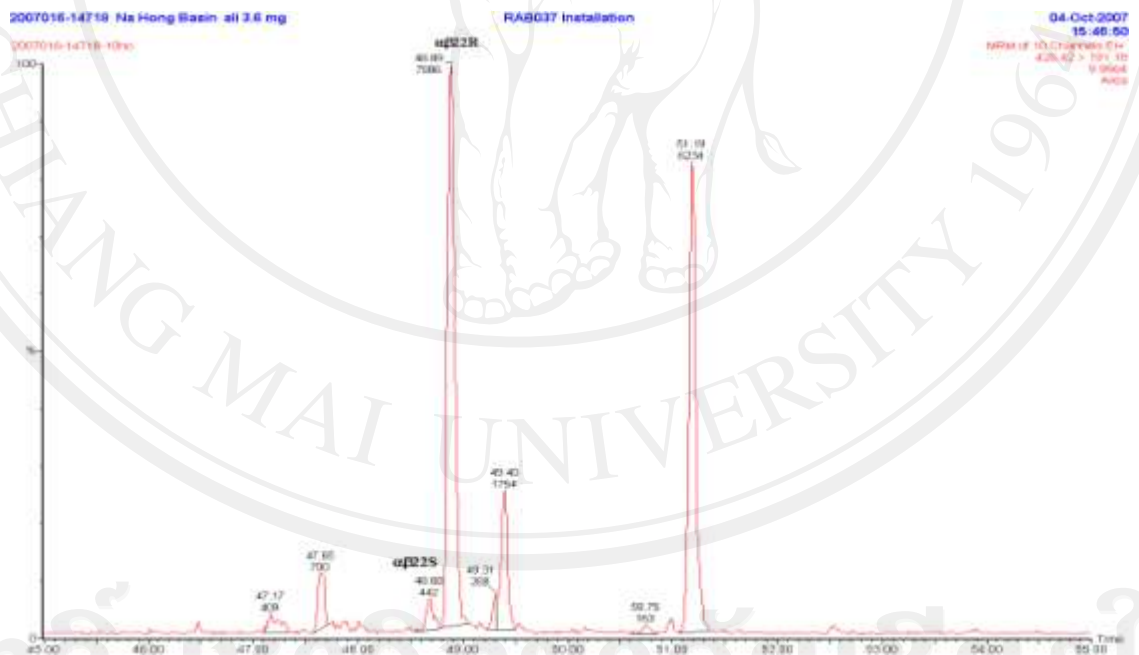
**Figure Ap-III.29:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14709 of Na Hong basin.



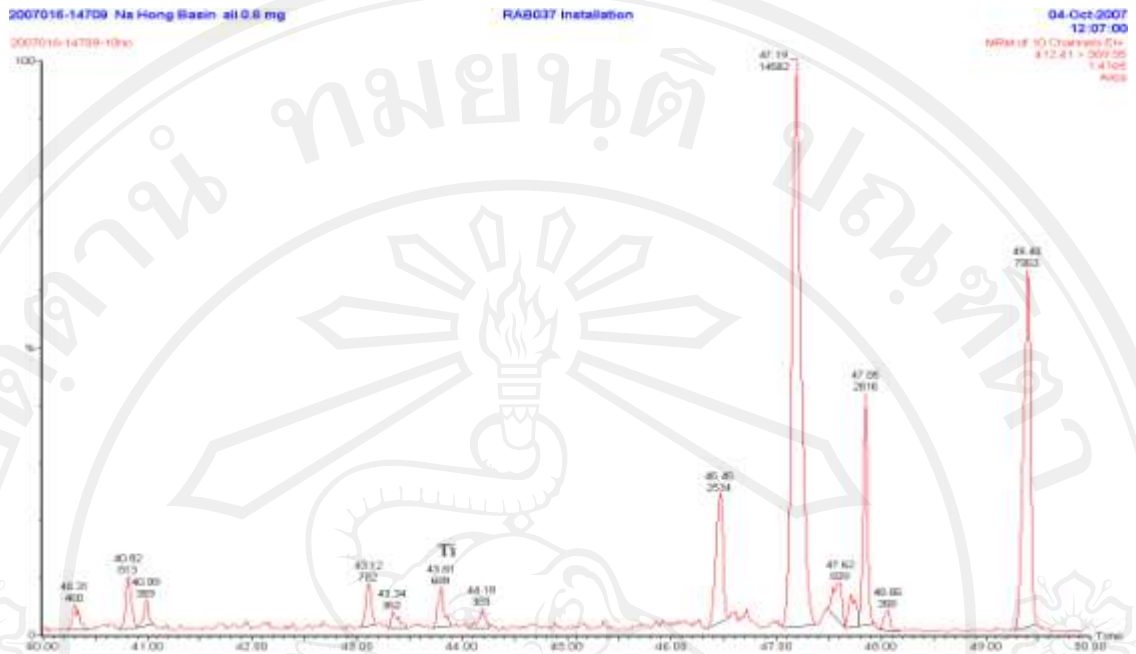
**Figure Ap-III.30:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14712 of Na Hong basin.



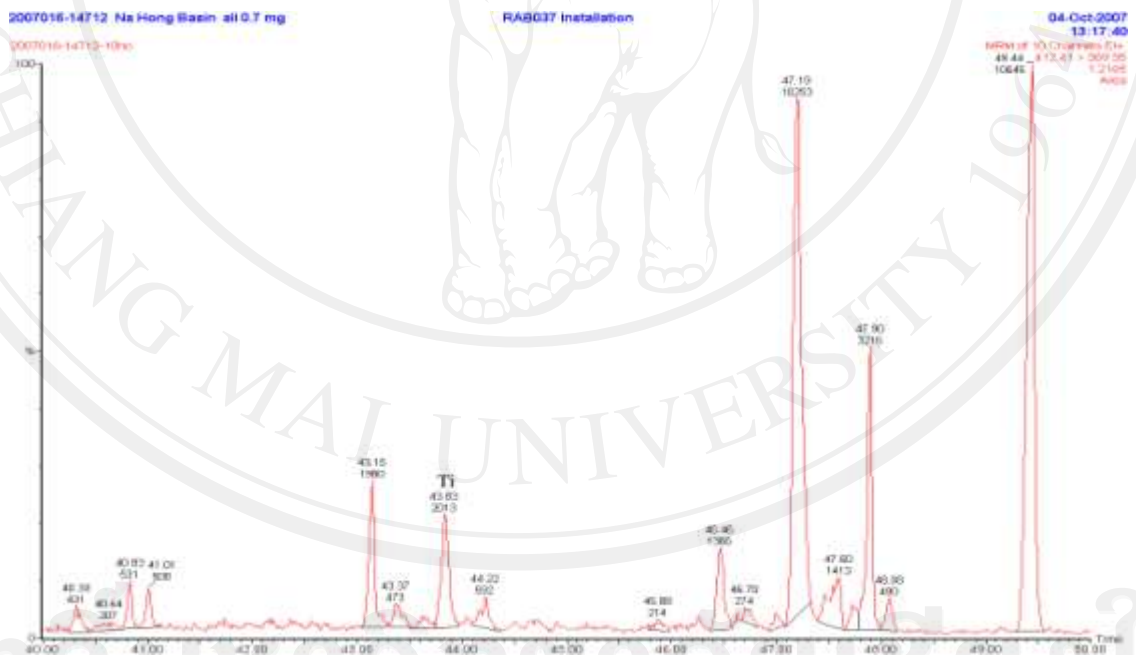
**Figure Ap-III.31:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 14714 of Na Hong basin.



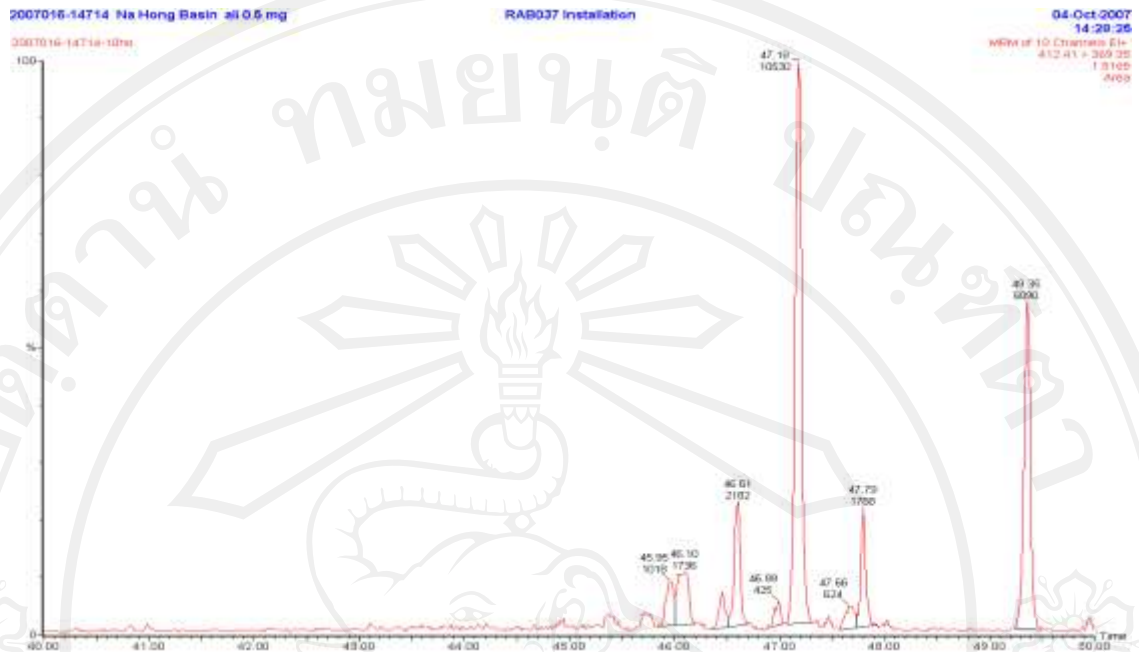
**Figure Ap-III.32:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 14718 of Na Hong basin.



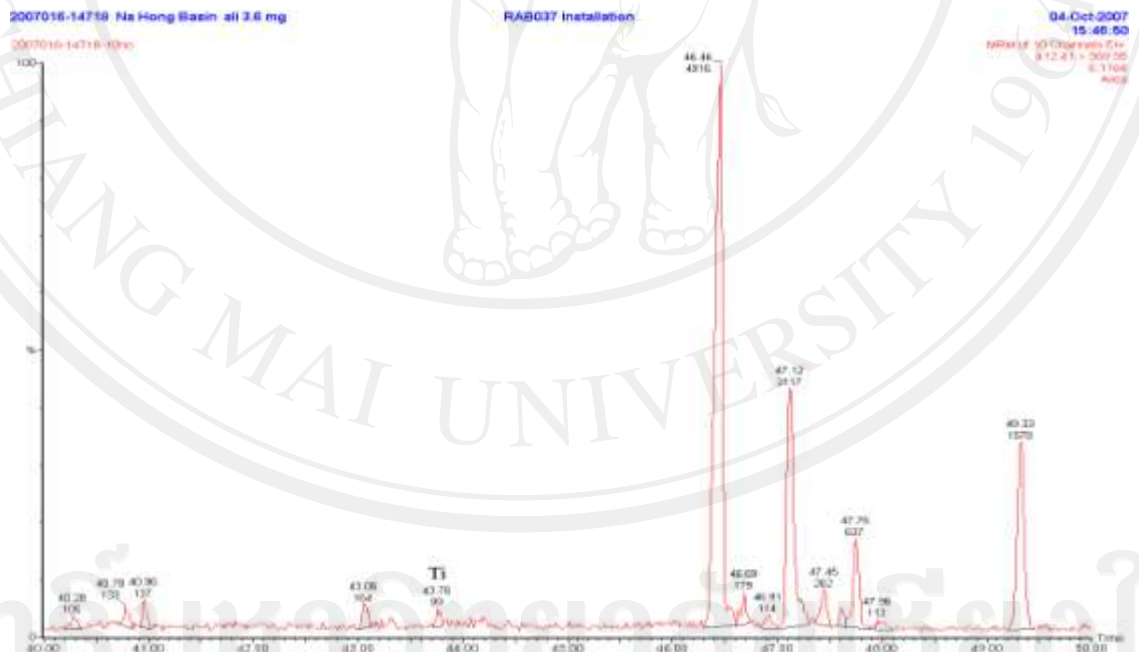
**Figure Ap-III.33:** 412→369 transition shows the distribution of bicadinanes in the sample 14709 of Na Hong basin.



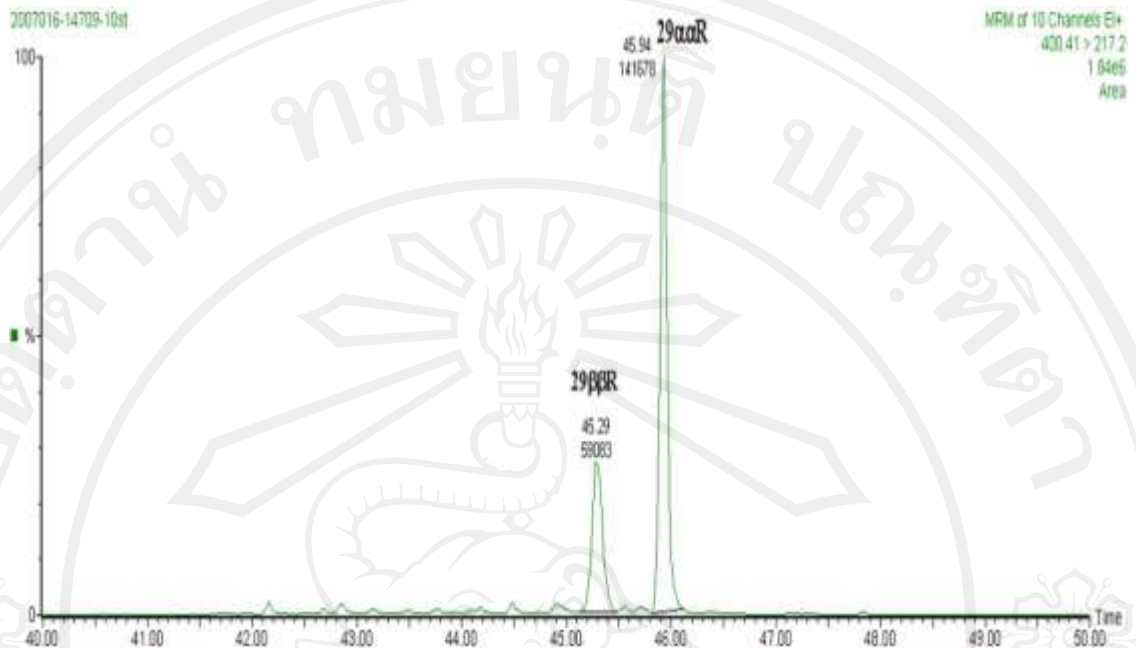
**Figure Ap-III.34:** 412→369 transition shows the distribution of bicadinanes in the sample 14712 of Na Hong basin.



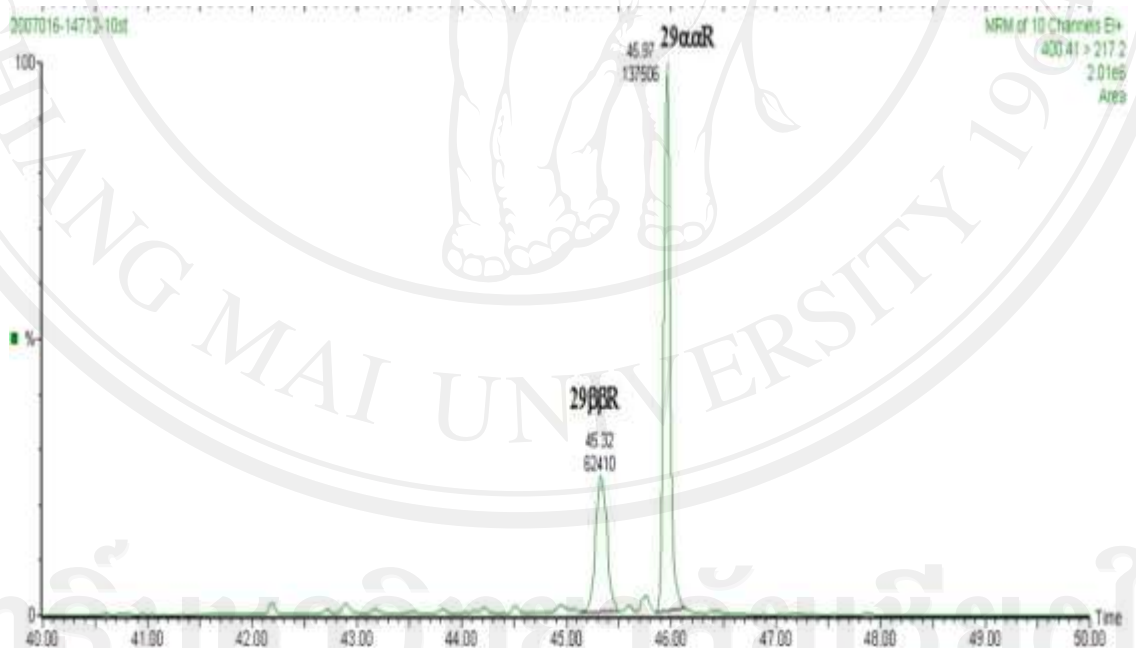
**Figure Ap-III.35:** 412→369 transition shows the distribution of bicadinanes in the sample 14714 of Na Hong basin.



**Figure Ap-III.36:** 412→369 transition shows the distribution of bicadinanes in the sample 14718 of Na Hong basin.

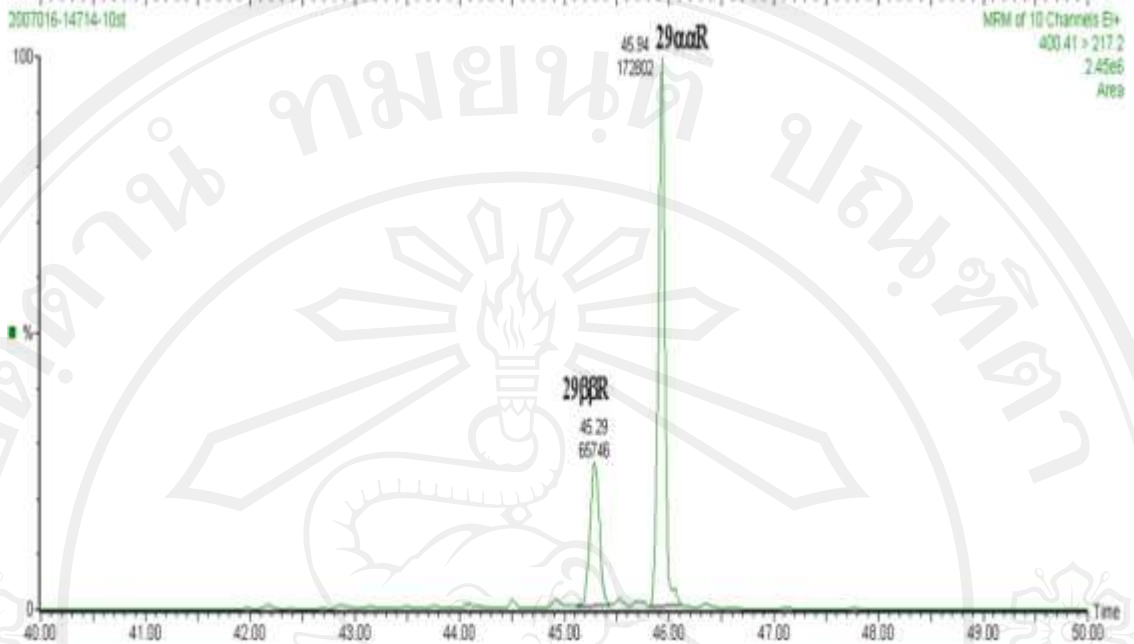


**Figure Ap-III.37:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14709 of Na Hong basin.

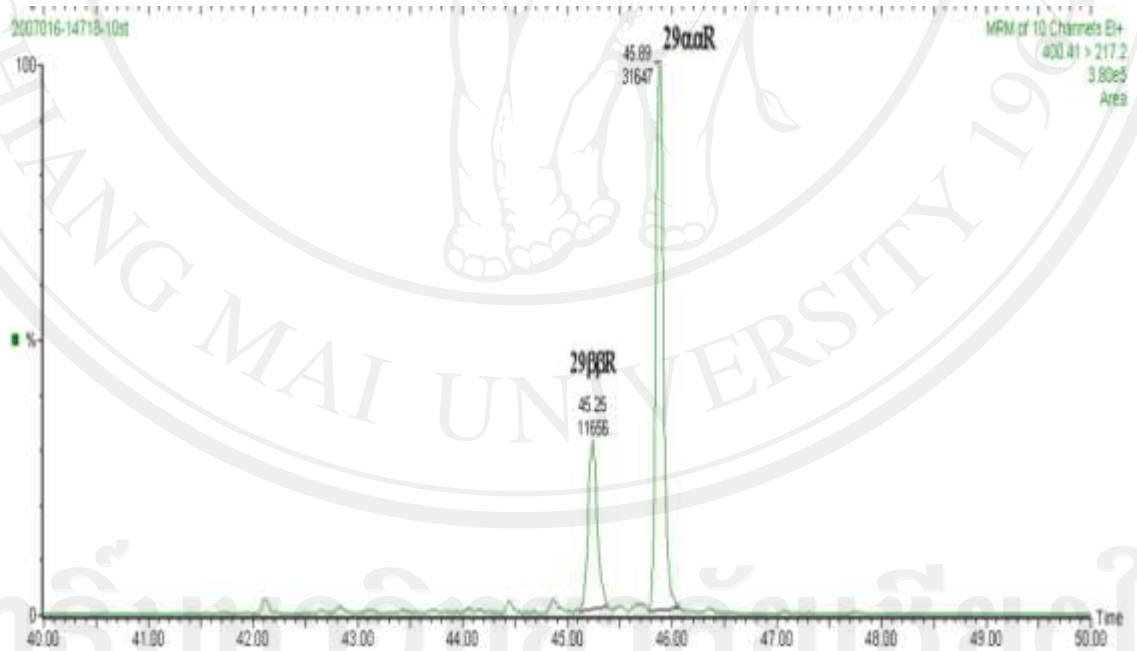


**Figure Ap-III.38:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14712 of Na Hong basin.

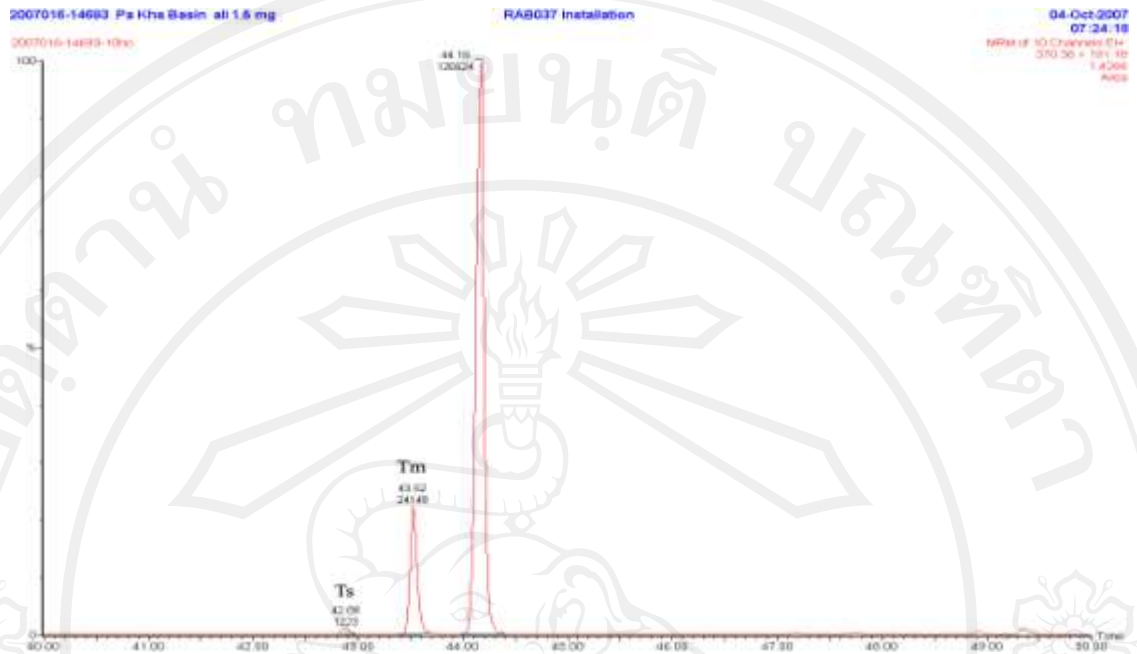




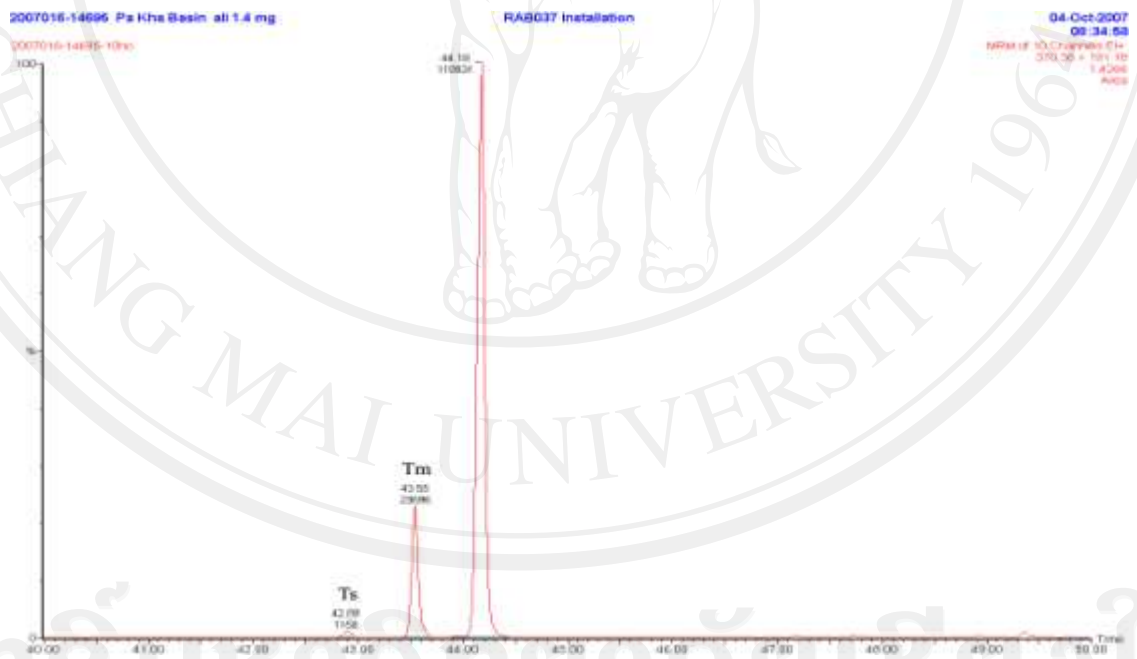
**Figure Ap-III.39:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14714 of Na Hong basin.



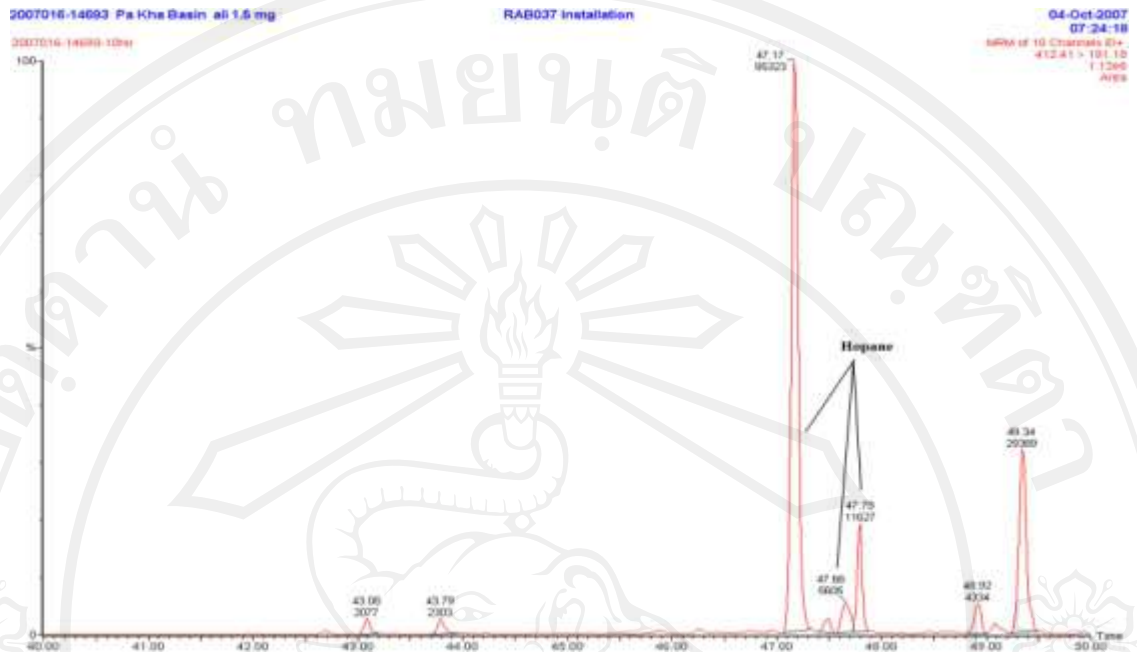
**Figure Ap-III.40:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14718 of Na Hong basin.



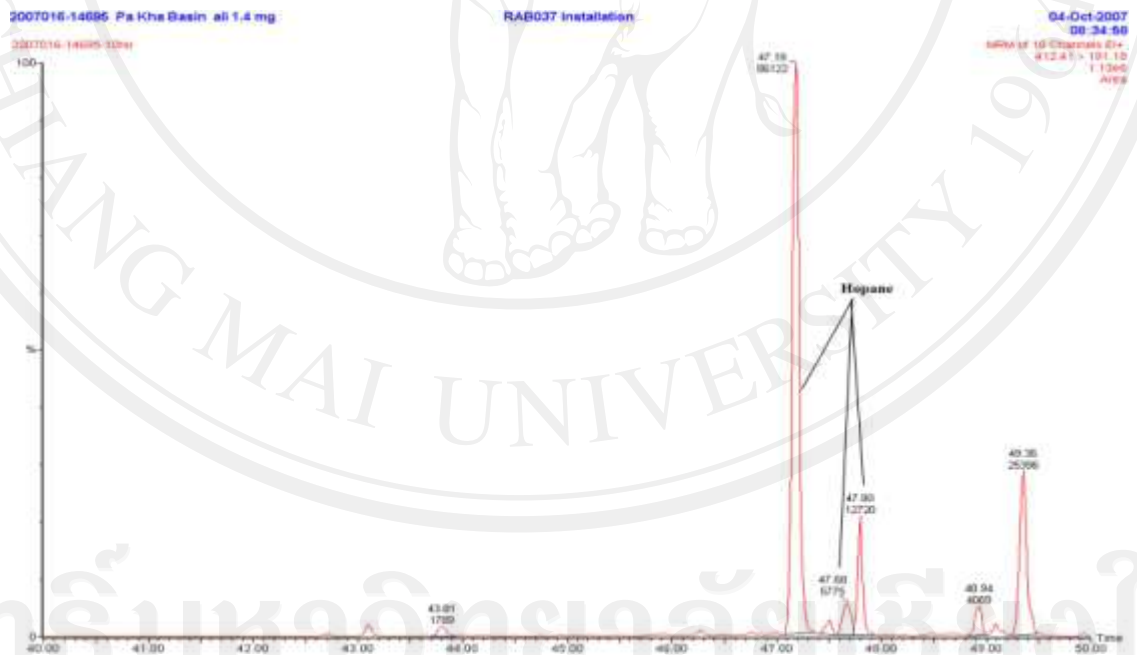
**Figure Ap-III.41:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14693 of Li basin.



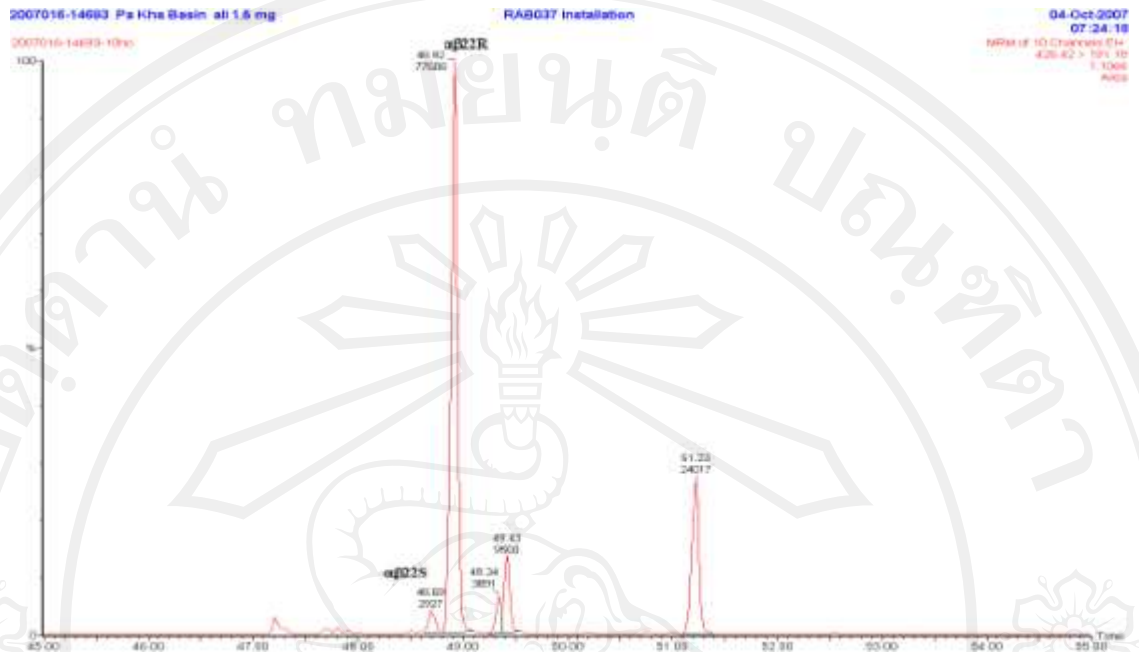
**Figure Ap-III.42:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14695 of Li basin.



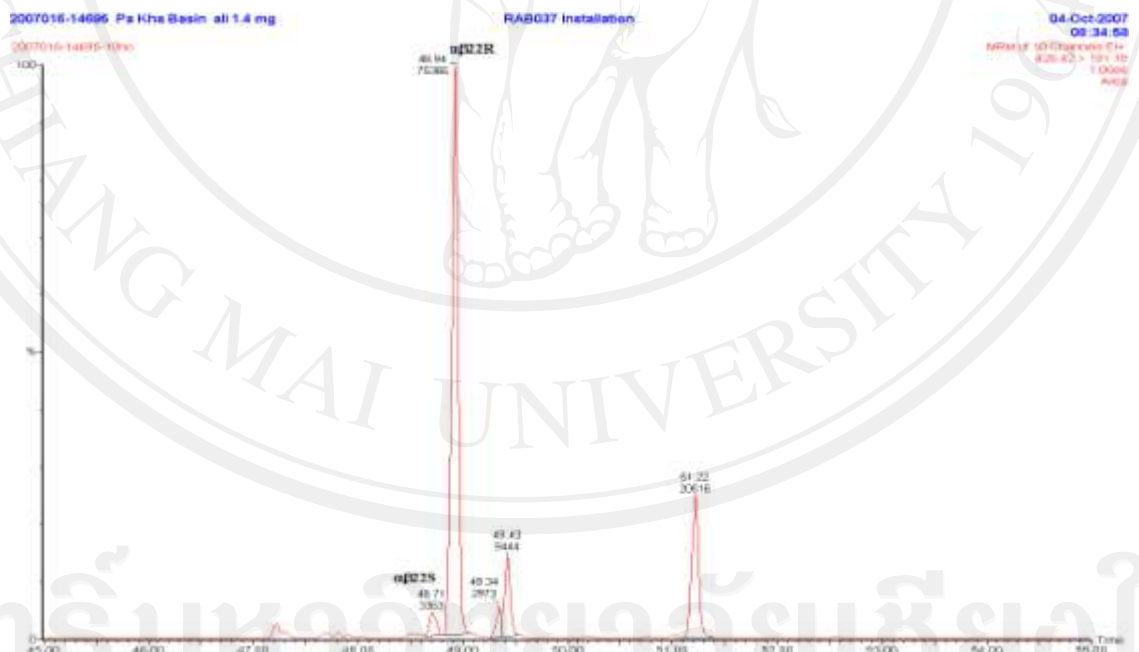
**Figure Ap-III.43:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 14693 of Li basin.



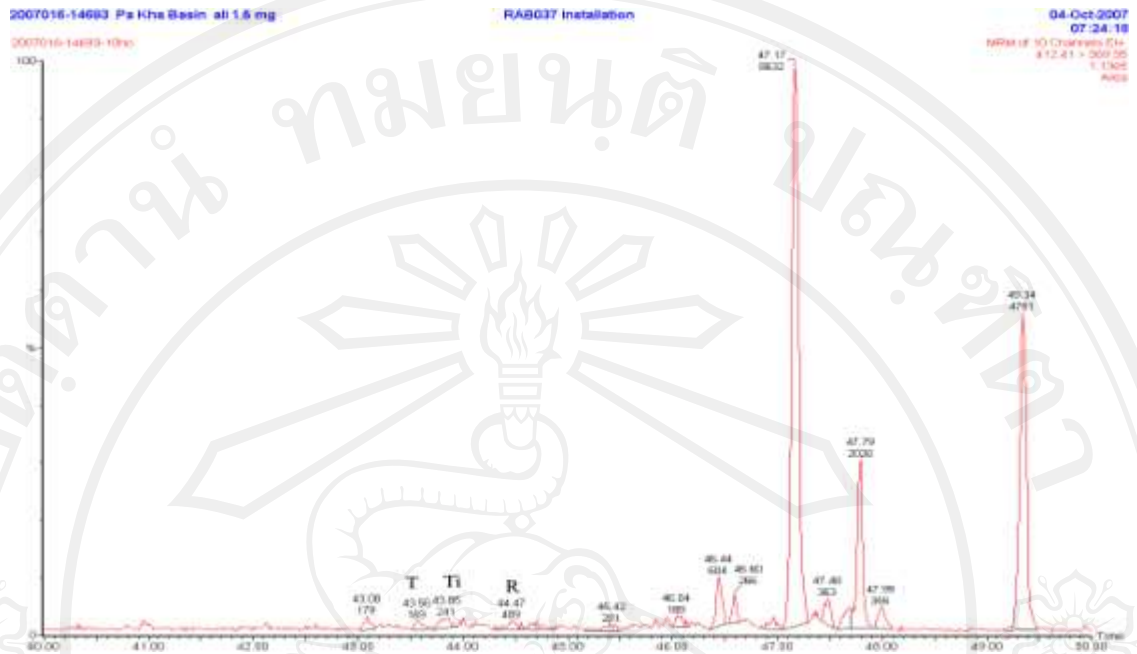
**Figure Ap-III.44:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 14695 of Li basin.



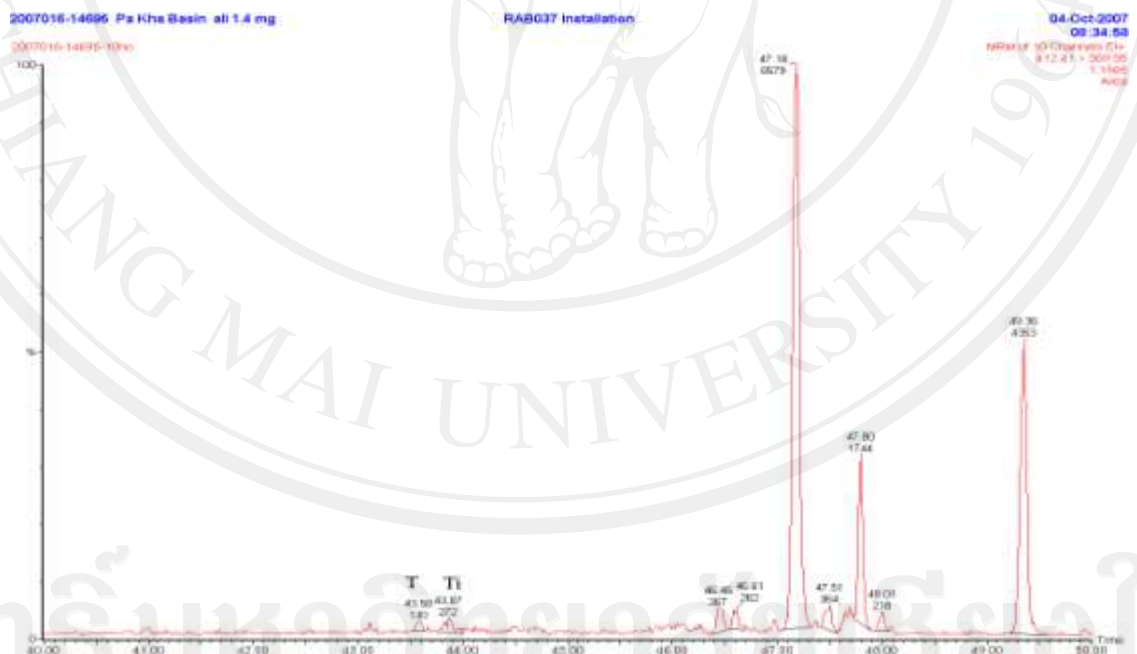
**Figure Ap-III.45:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14693 of Li basin.



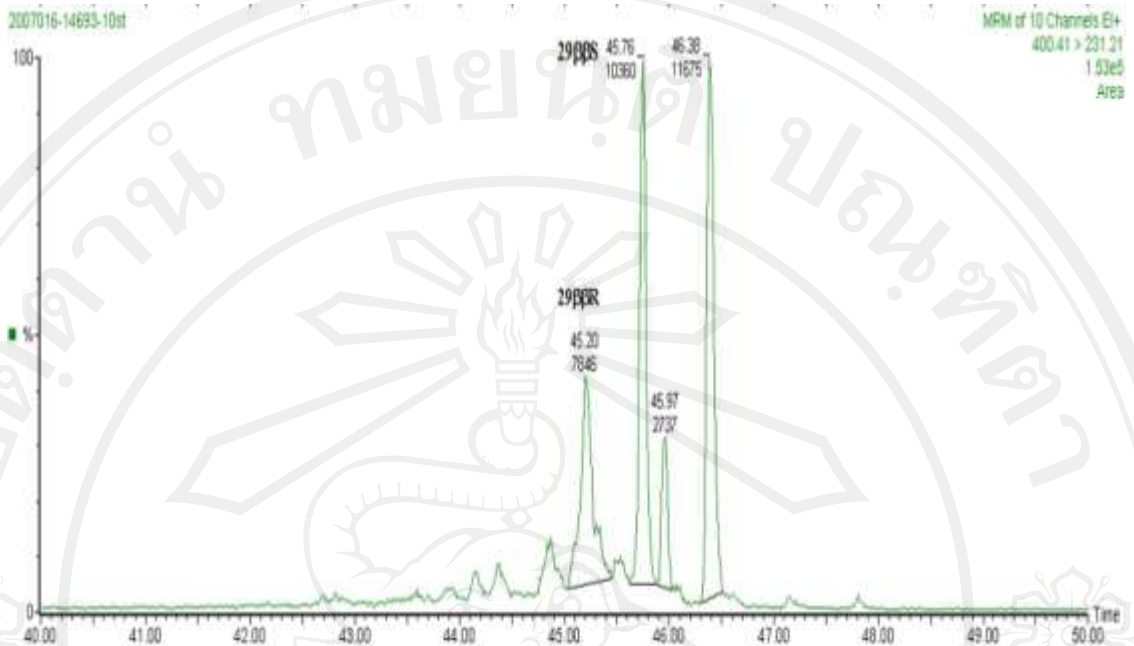
**Figure Ap-III.46:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14695 of Li basin.



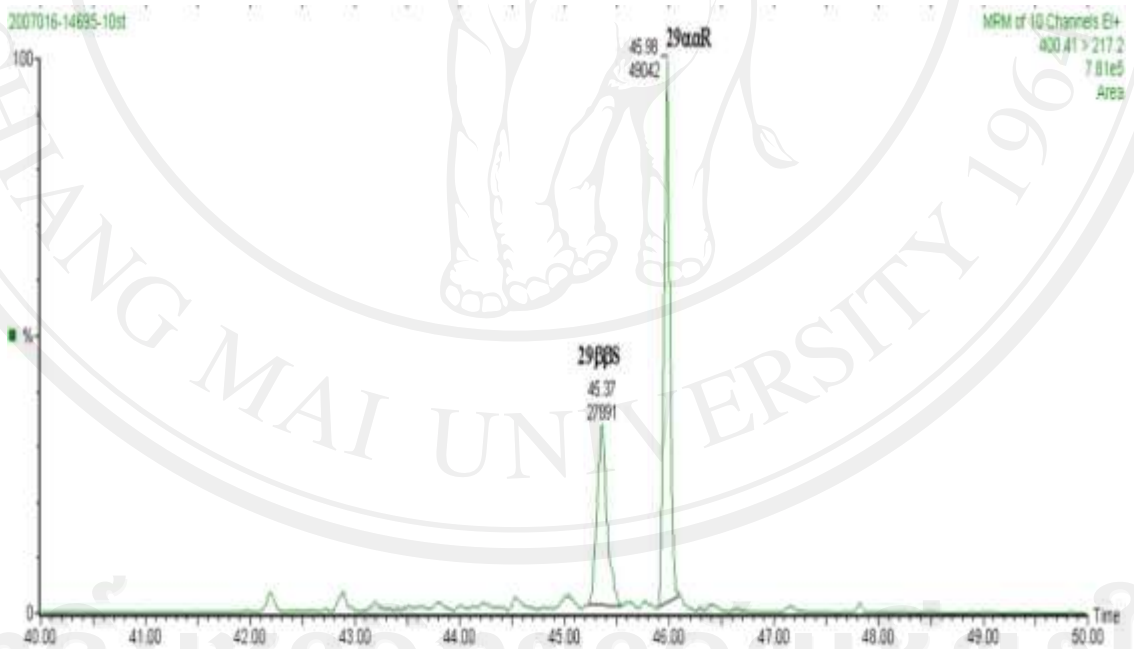
**Figure Ap-III.47:** 412→369 transition shows the distribution of bicadinanes in the sample 14693 of Li basin.



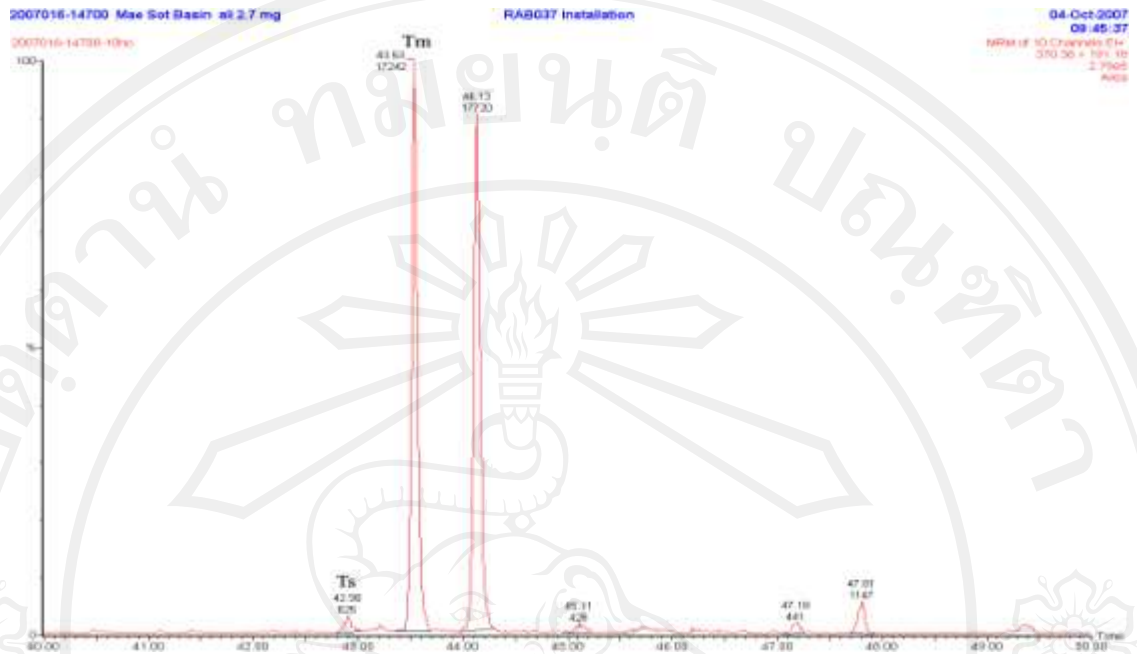
**Figure Ap-III.48:** 412→369 transition shows the distribution of bicadinanes in the sample 14695 of Li basin



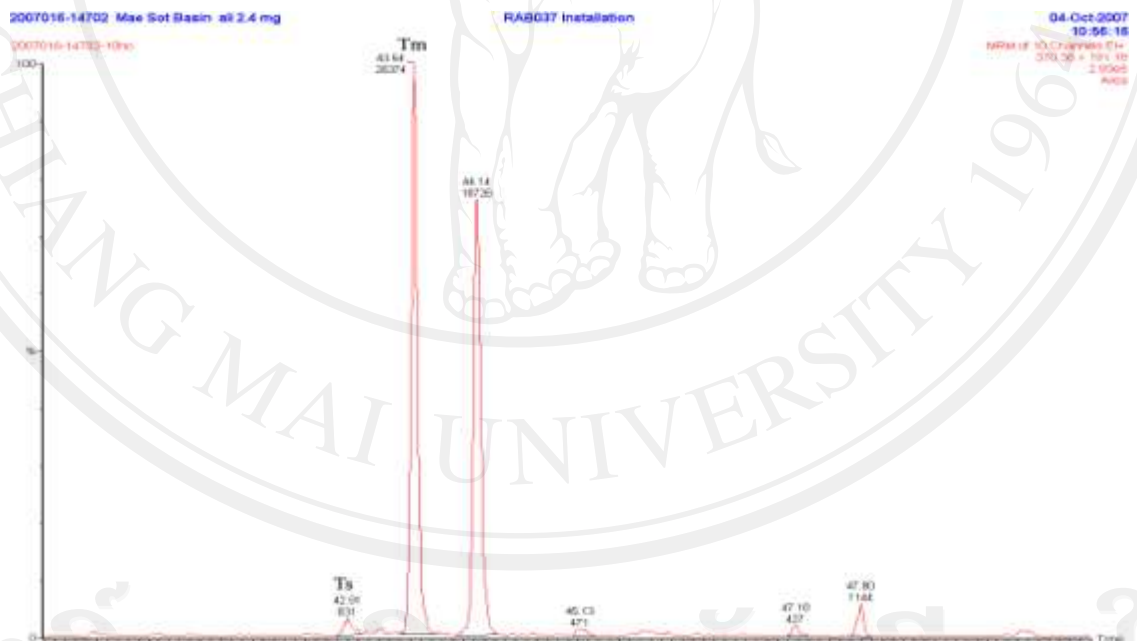
**Figure Ap-III.49:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14693 of Li basin.



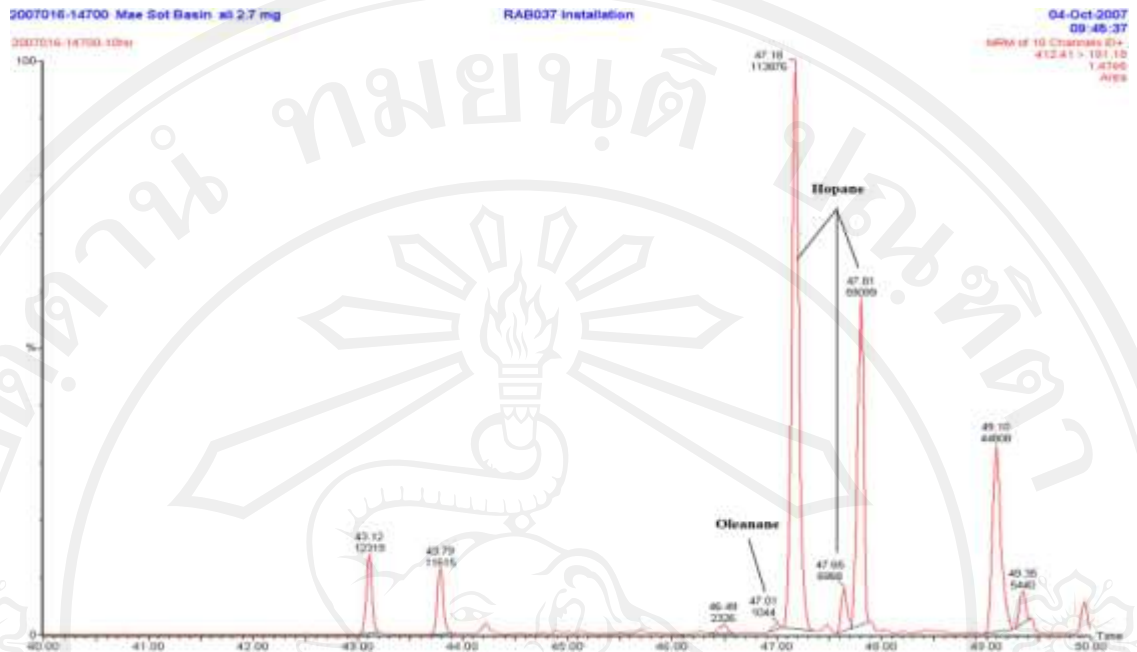
**Figure Ap-III.50:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14695 of Li basin.



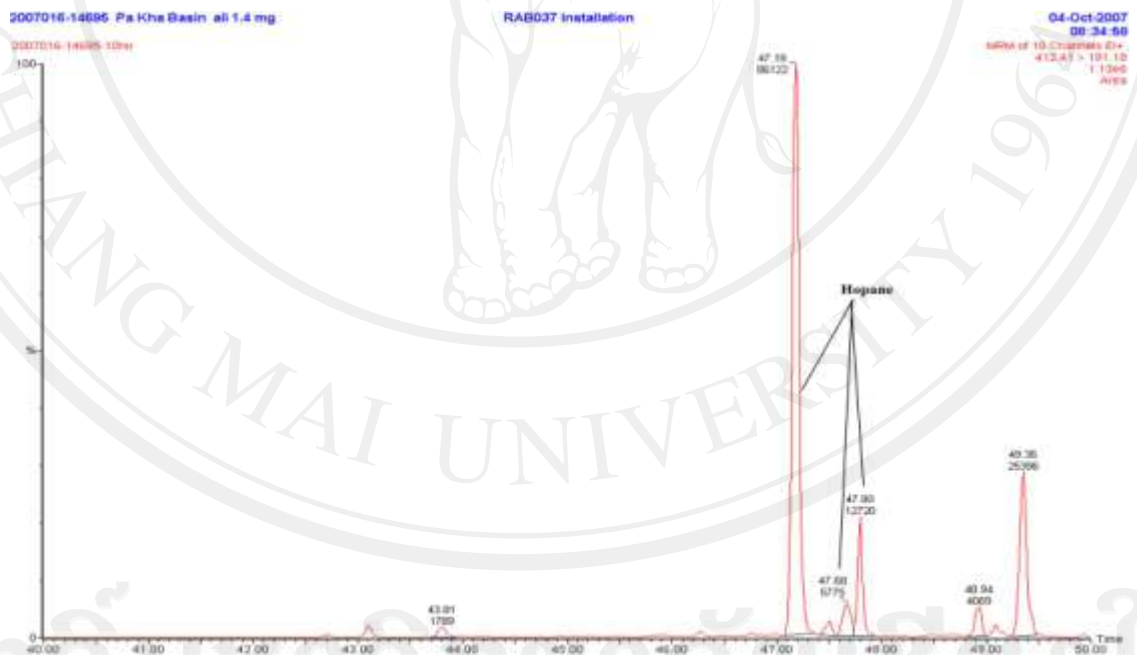
**Figure Ap-III.51:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14700 of Mae Sot basin.



**Figure Ap-III.52:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14702 of Mae Sot basin.

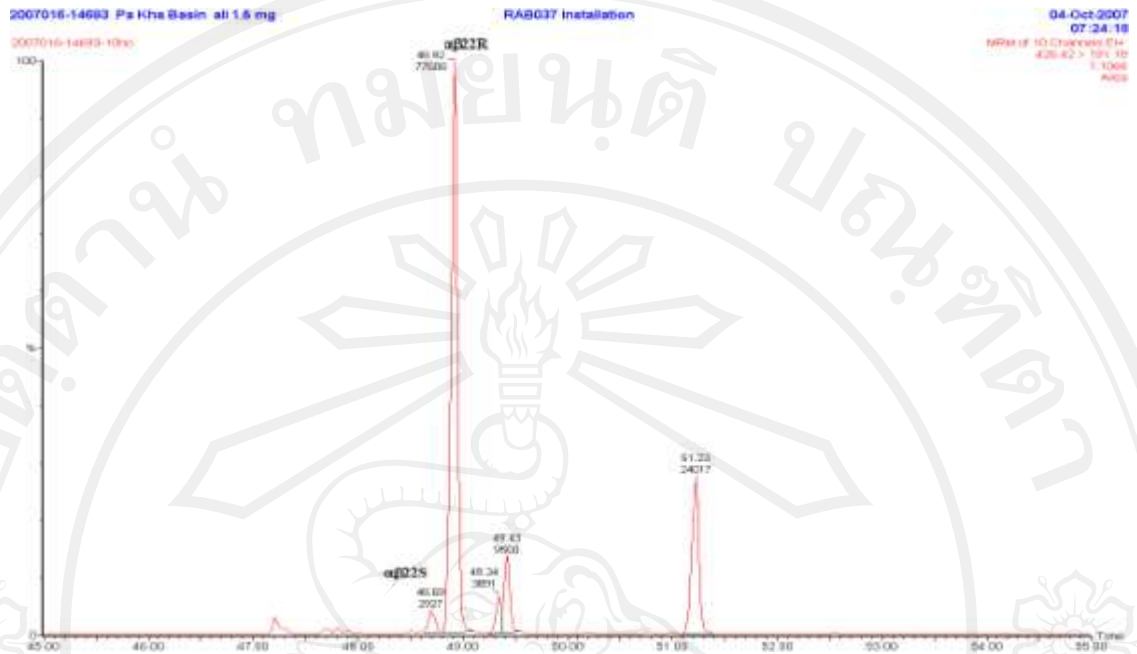


**Figure Ap-III.53:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 14700 of Mae Sot basin.

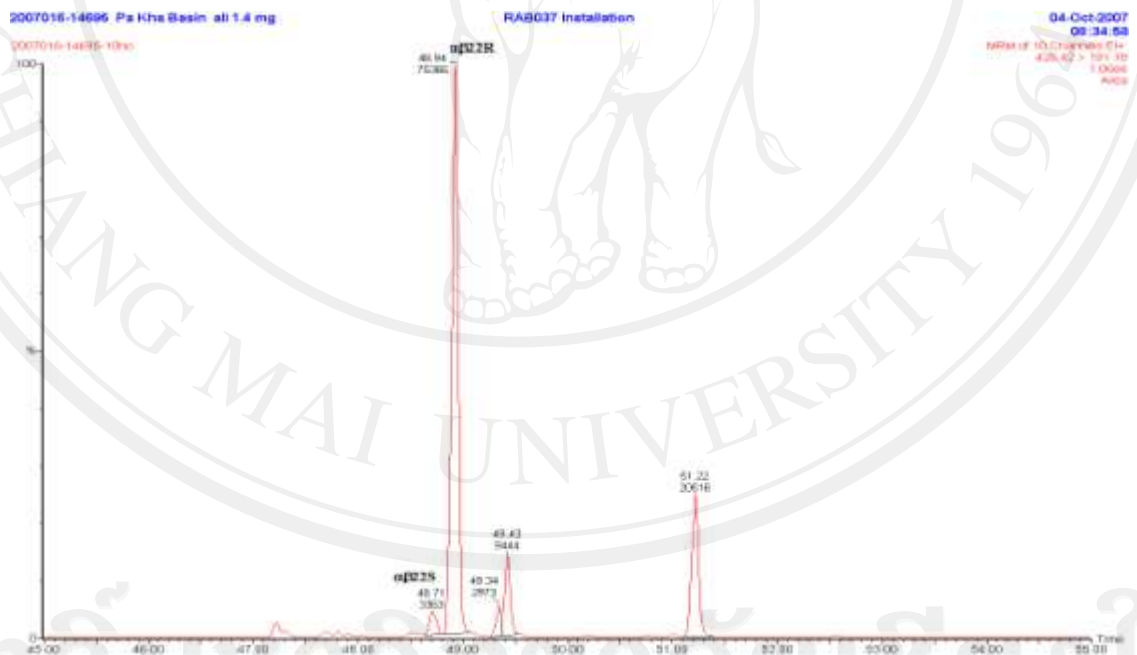


**Figure Ap-III.54:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 14702 of Mae Sot basin.

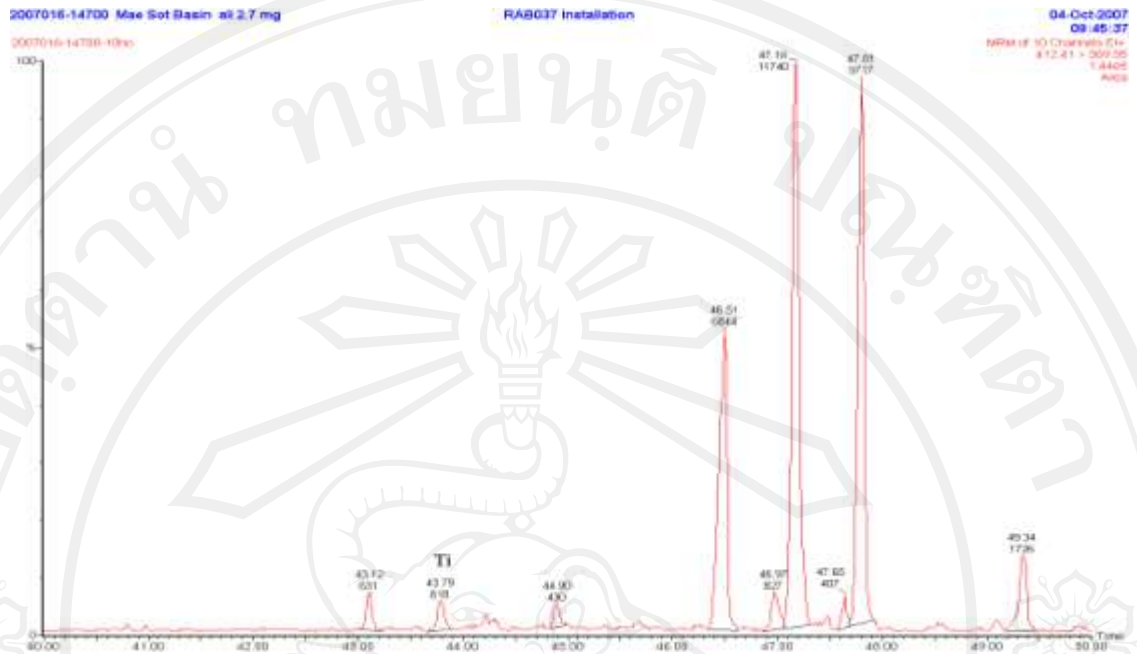




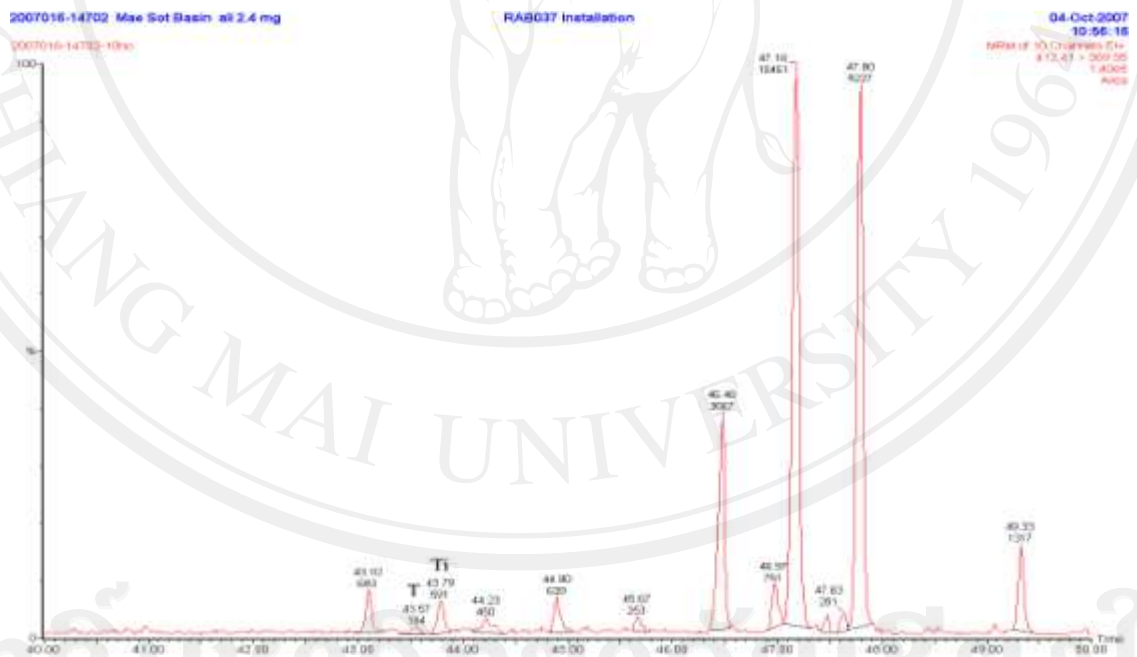
**Figure Ap-III.55:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14700 of Mae Sot basin.



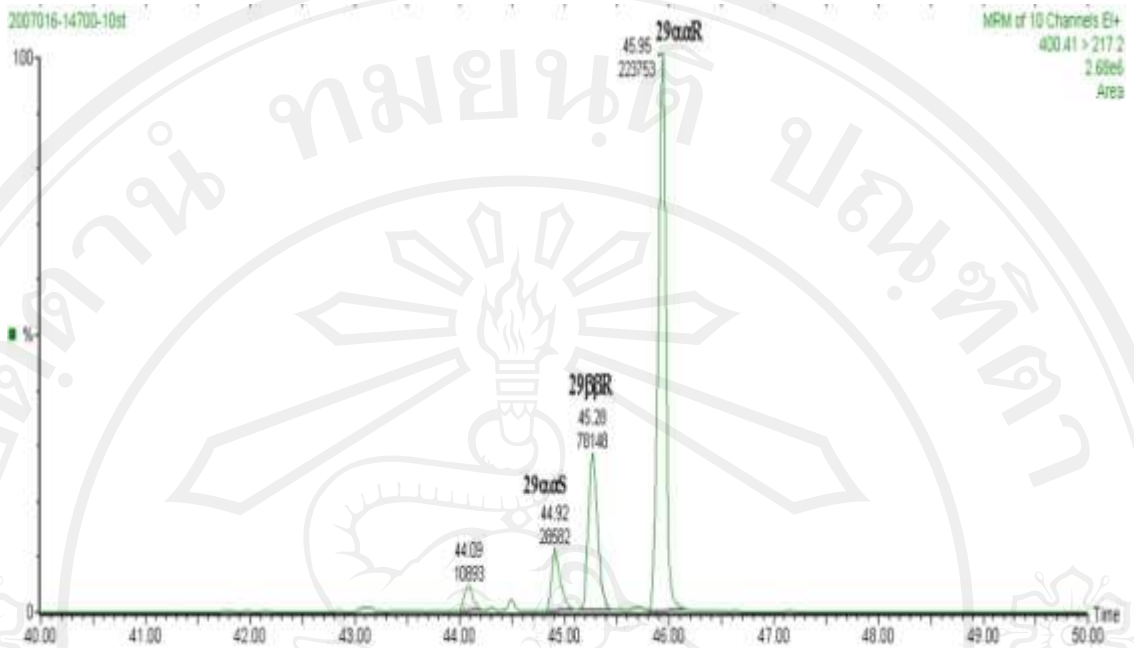
**Figure Ap-III.56:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14702 of Mae Sot basin.



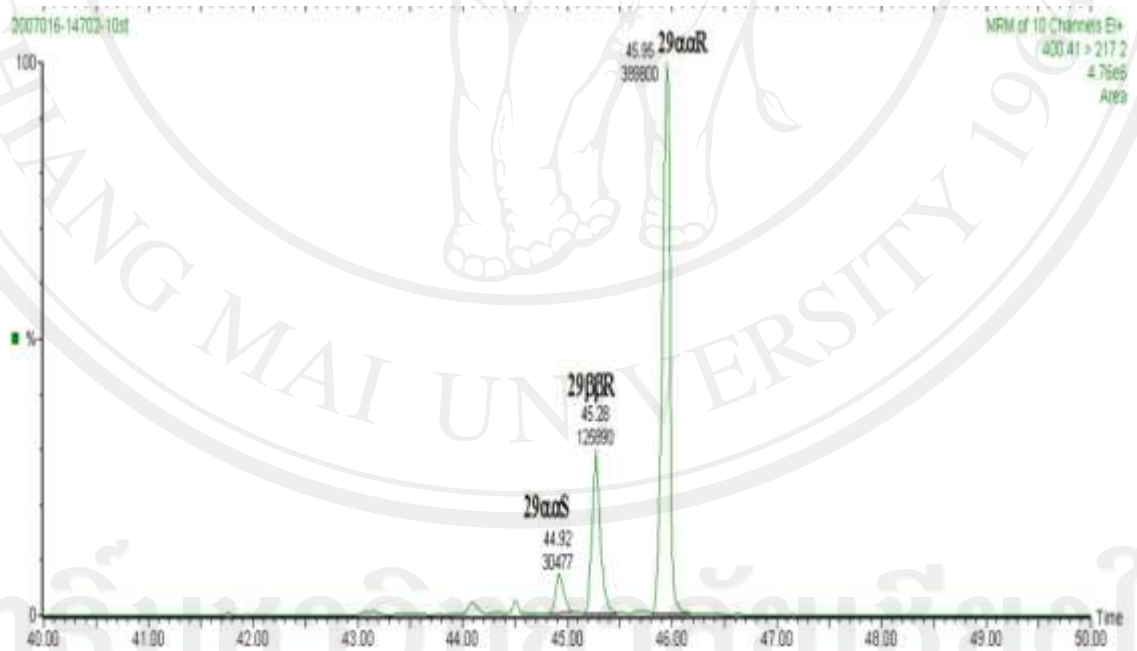
**Figure Ap-III.57:** 412→369 transition shows the distribution of bicadinanes in the sample 14700 of Mae Sot basin.



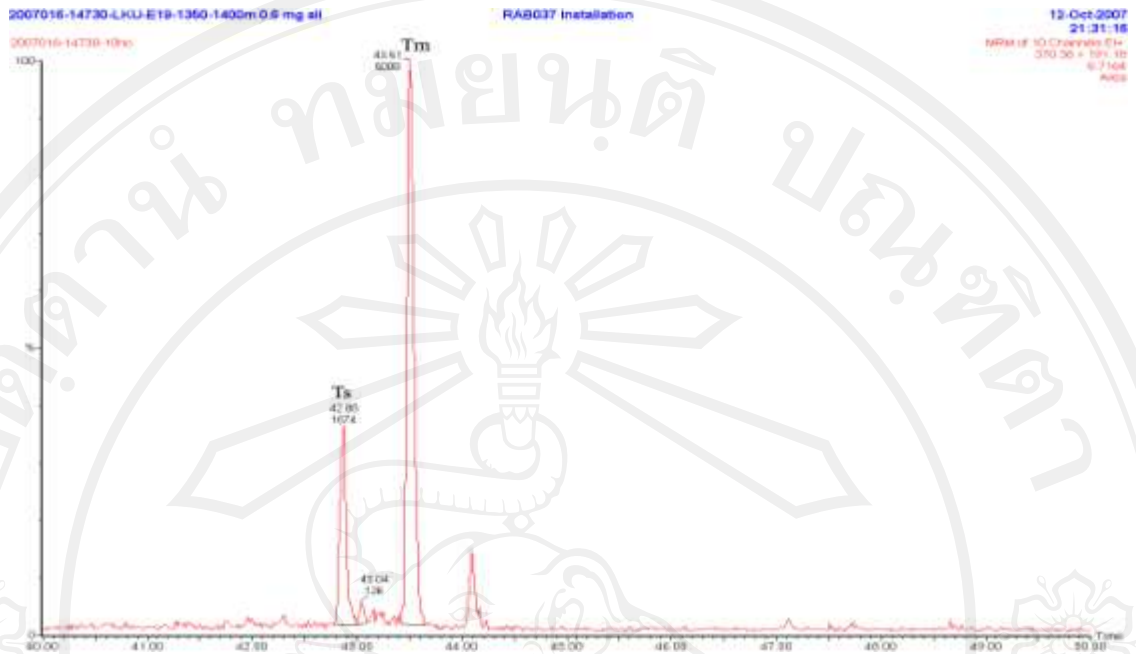
**Figure Ap-III.58:** 412→369 transition shows the distribution of bicadinanes in the sample 14702 of Mae Sot basin.



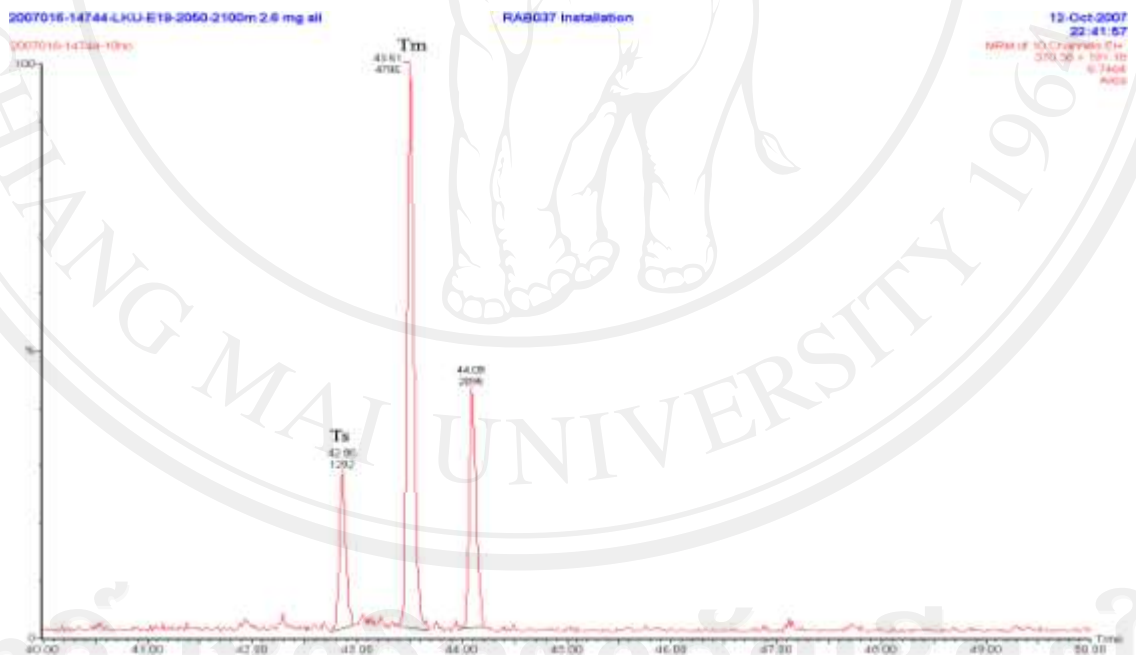
**Figure Ap-III.59:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14700 of Mae Sot basin.



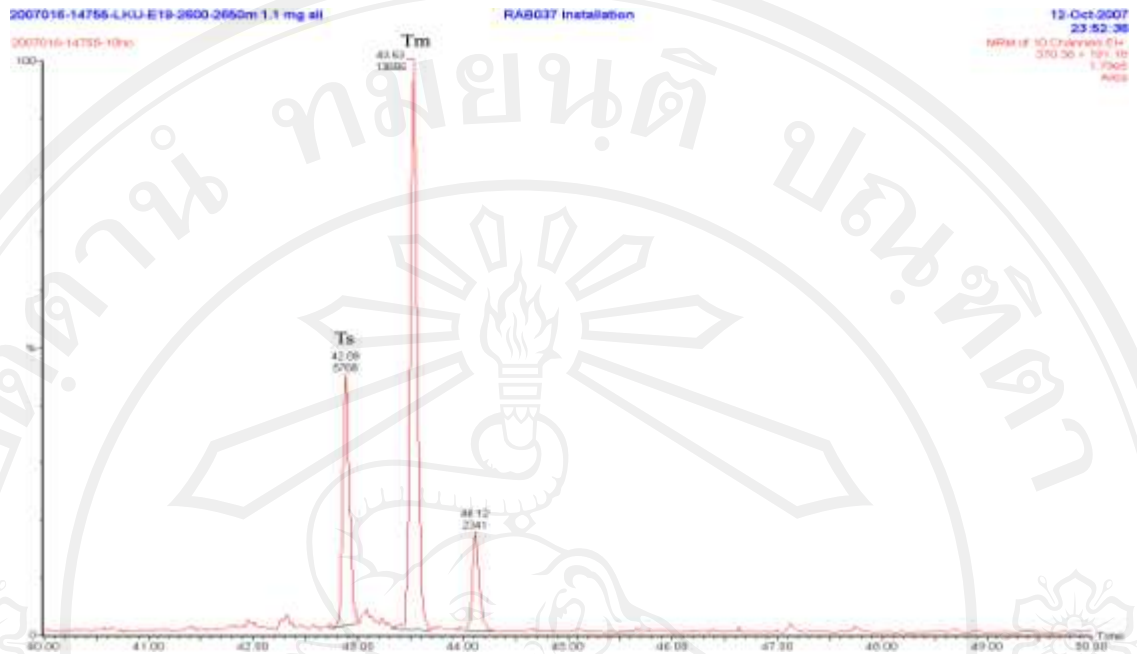
**Figure Ap-III.60:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14702 of Mae Sot basin.



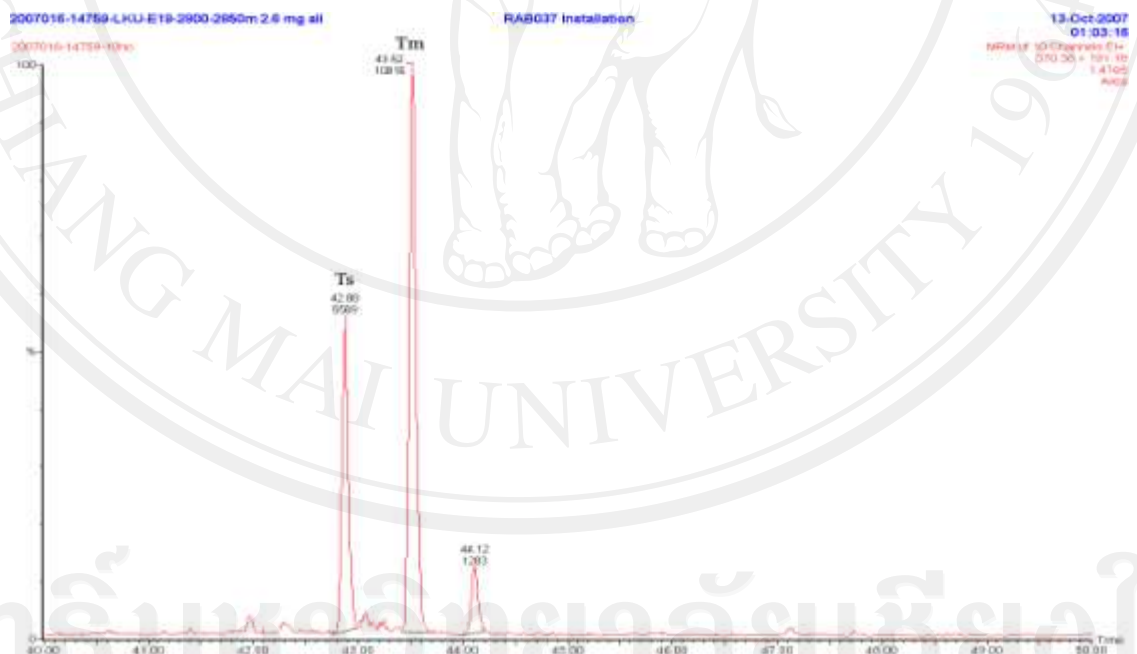
**Figure Ap-III.61:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14730 of P-SKwell.



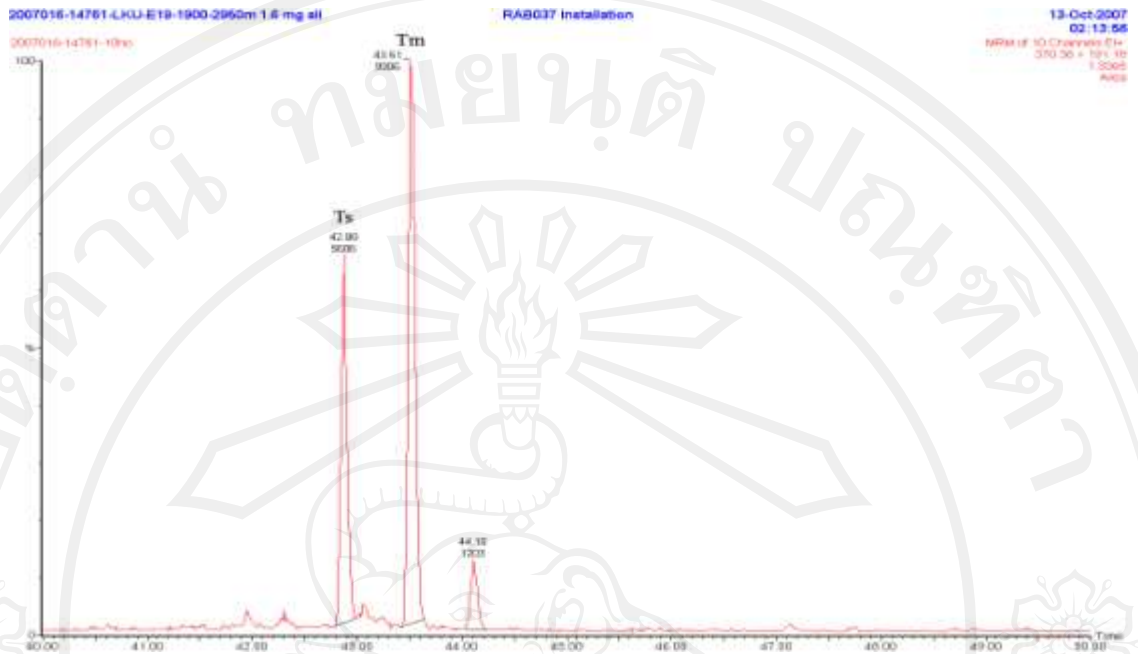
**Figure Ap-III.62:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14744 of P-SKwell.



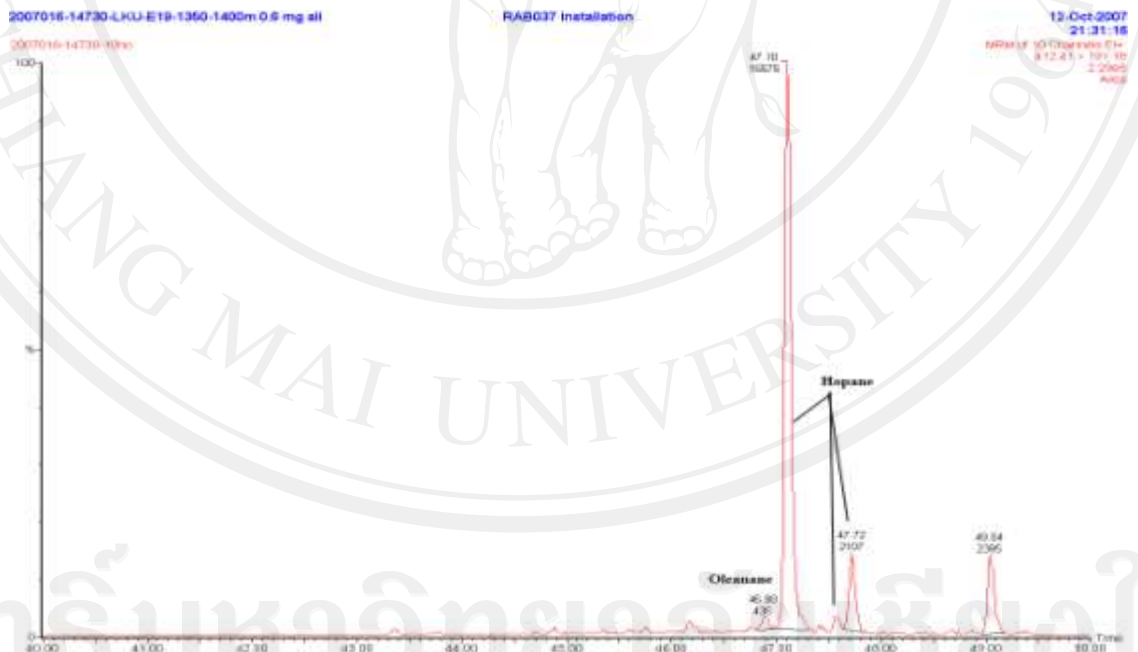
**Figure Ap-III.63:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14755 of P-SKwell.



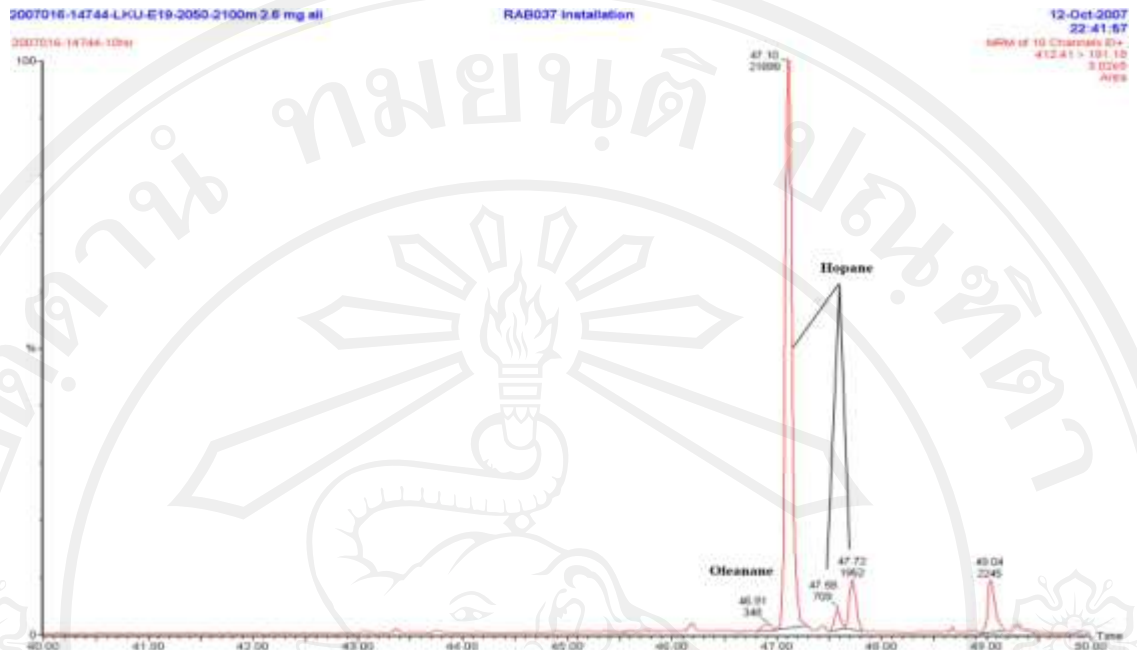
**Figure Ap-III.64:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14759 of P-SKwell.



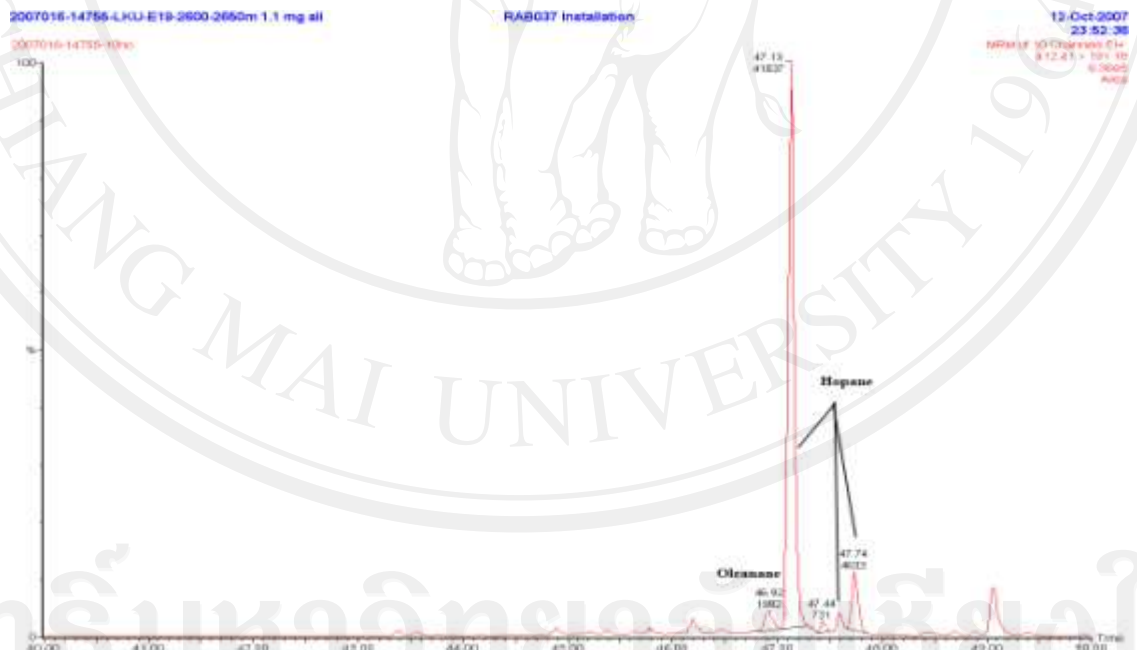
**Figure Ap-III.65:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 14761 of P-SKwell.



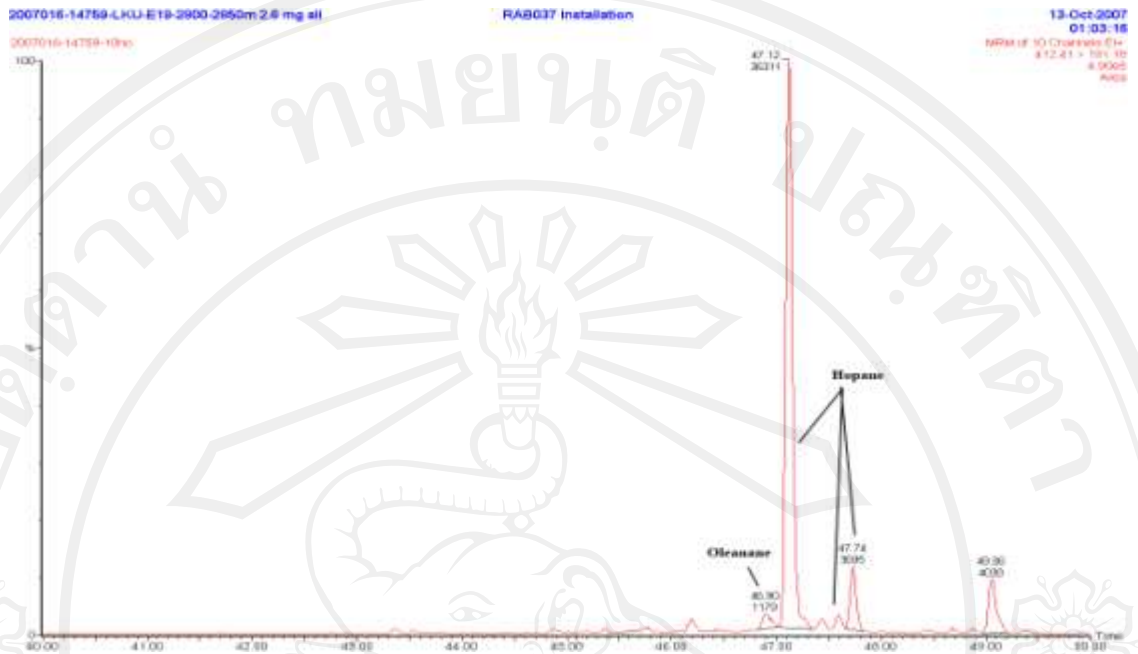
**Figure Ap-III.66:** 412→191 transitions showing saturated C<sub>30</sub> pentacyclic triterpanes in the sample 14730 of P-SKwell.



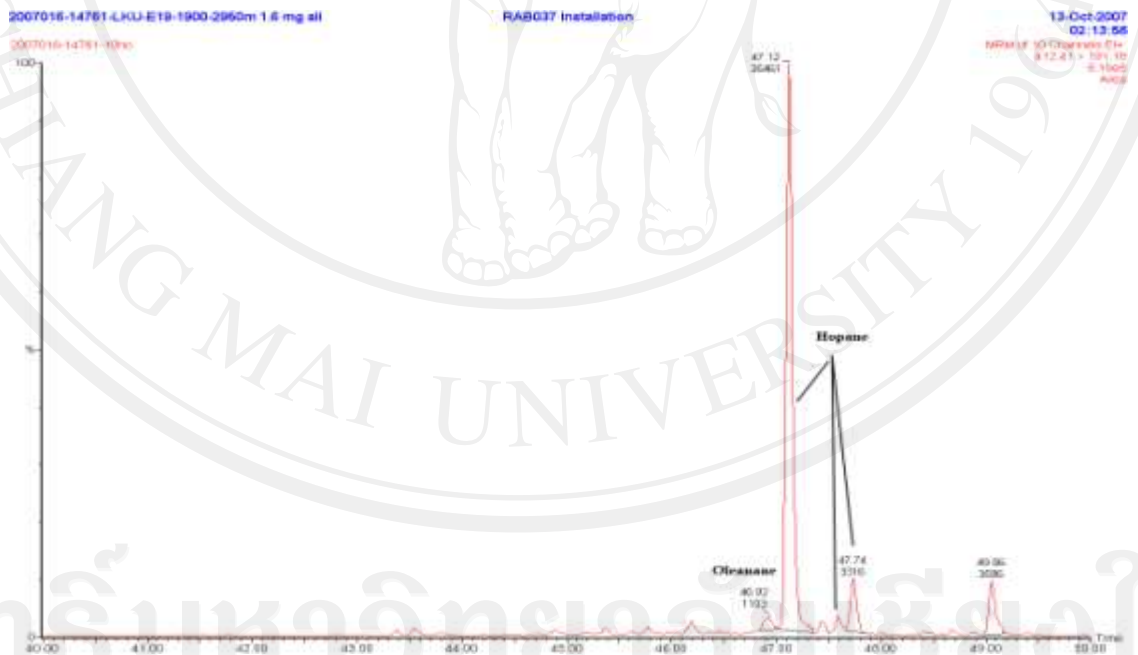
**Figure Ap-III.67:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 14744 of P-SKwell.



**Figure Ap-III.68:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 14755 of P-SKwell.

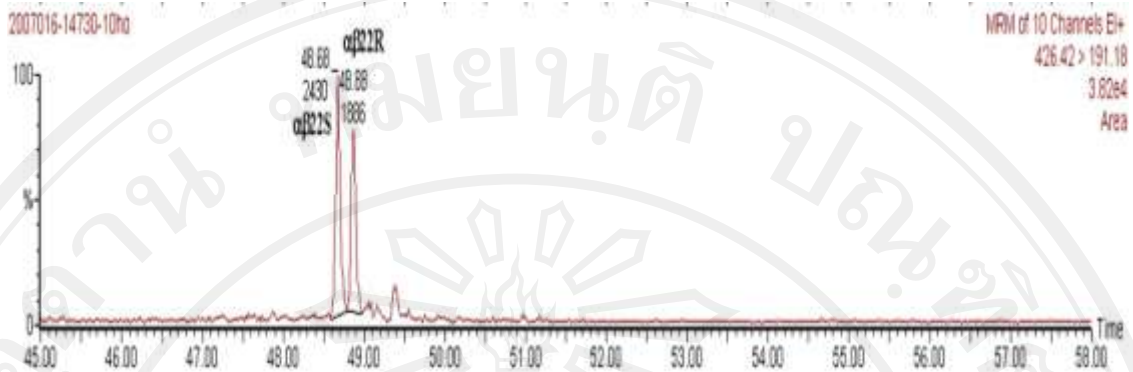


**Figure Ap-III.69:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 14759 of P-SKwell.

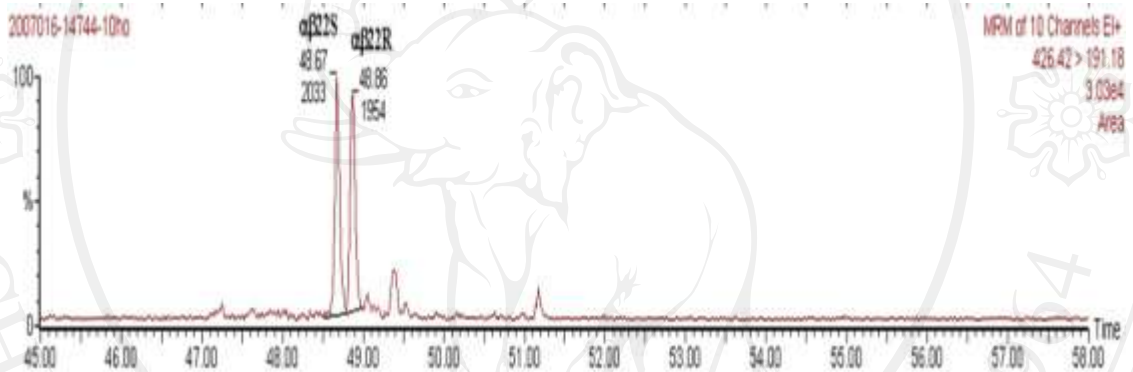


**Figure Ap-III.70:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 14761 of P-SKwell.

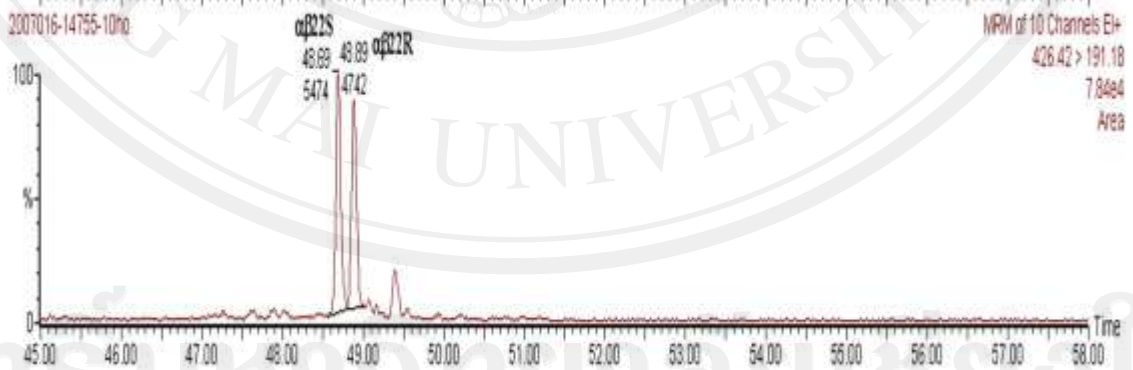




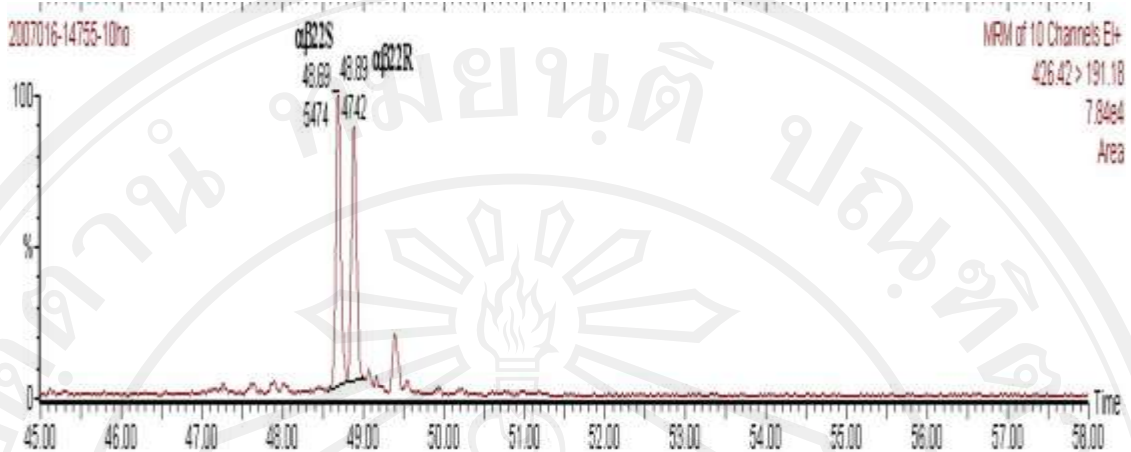
**Figure Ap-III.71:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14730 of P-SKwell.



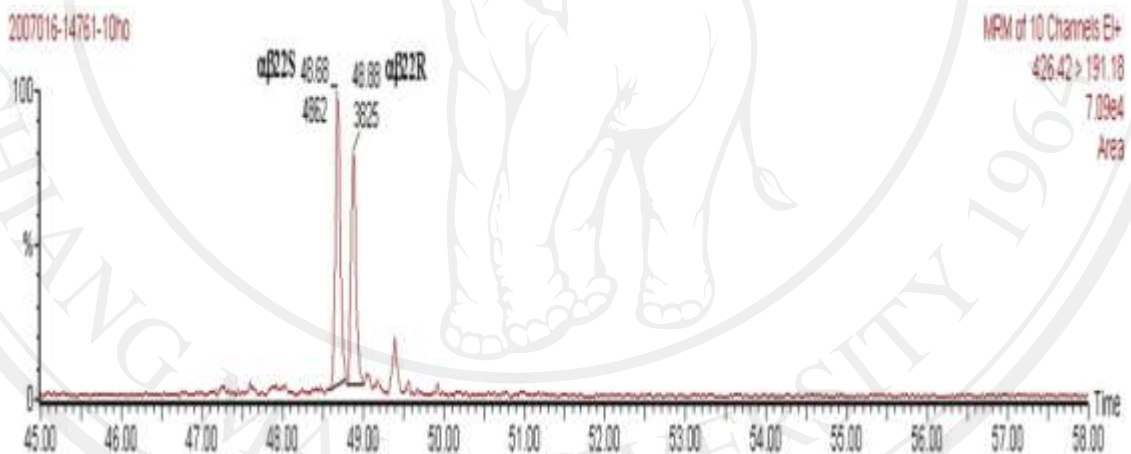
**Figure Ap-III.72:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14744 of P-SKwell.



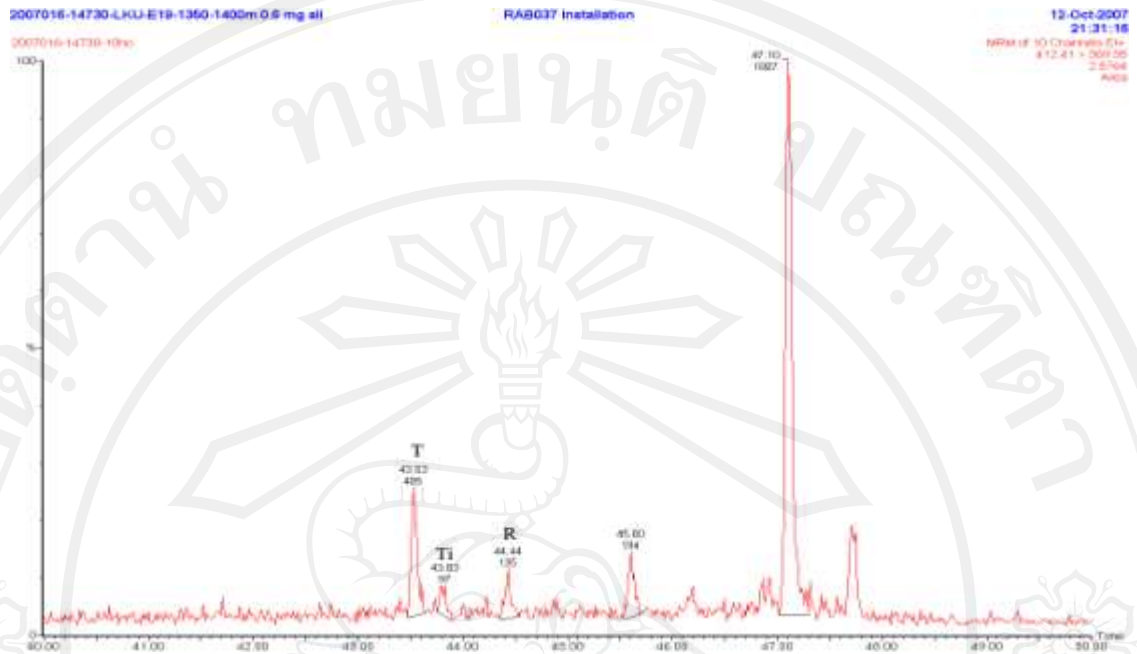
**Figure Ap-III.73:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14755 of P-SKwell.



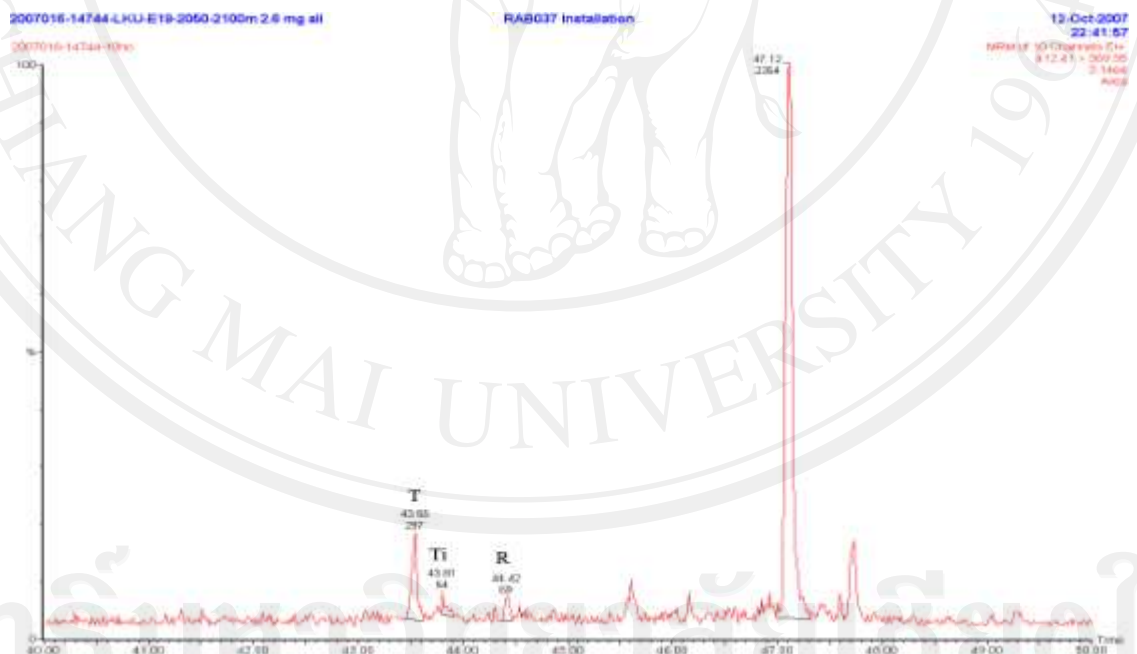
**Figure Ap-III.74:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14759 of P-SKwell.



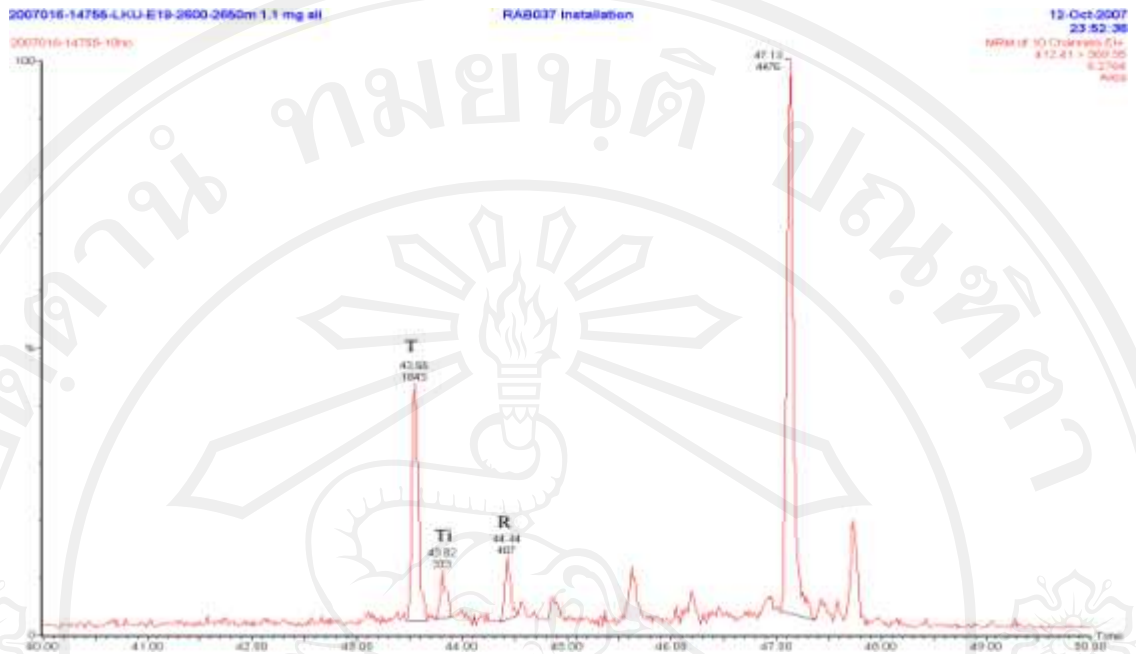
**Figure Ap-III.75:** 426→191 transitions showing  $\alpha\beta22S$  and  $\alpha\beta22R$  saturated  $C_{31}$  Hopane in the sample 14761 of P-SKwell.



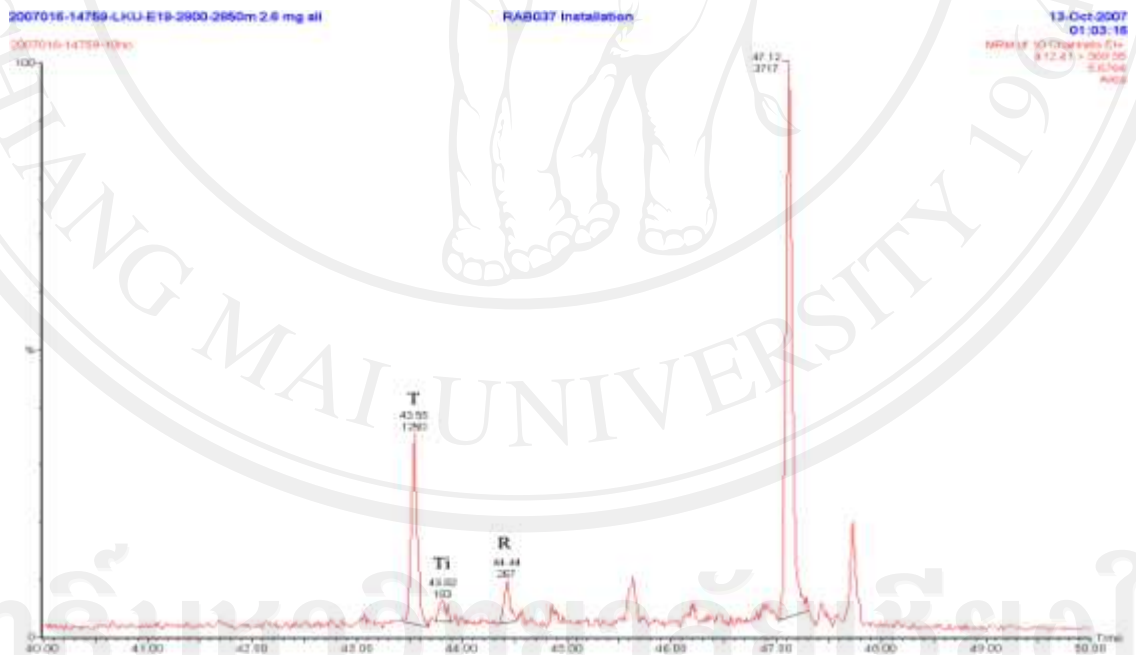
**Figure Ap-III.76:** 412→369 transition shows the distribution of bicadinanes in the sample 14730 of P-SKwell.



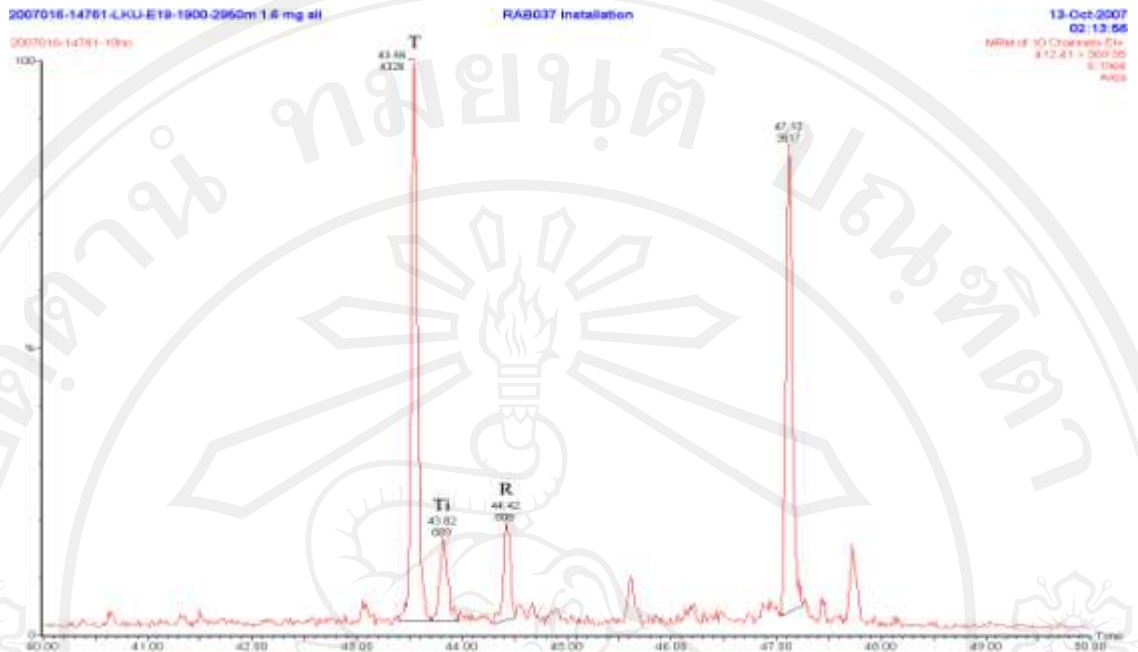
**Figure Ap-III.77:** 412→369 transition shows the distribution of bicadinanes in the sample 14744 of P-SKwell.



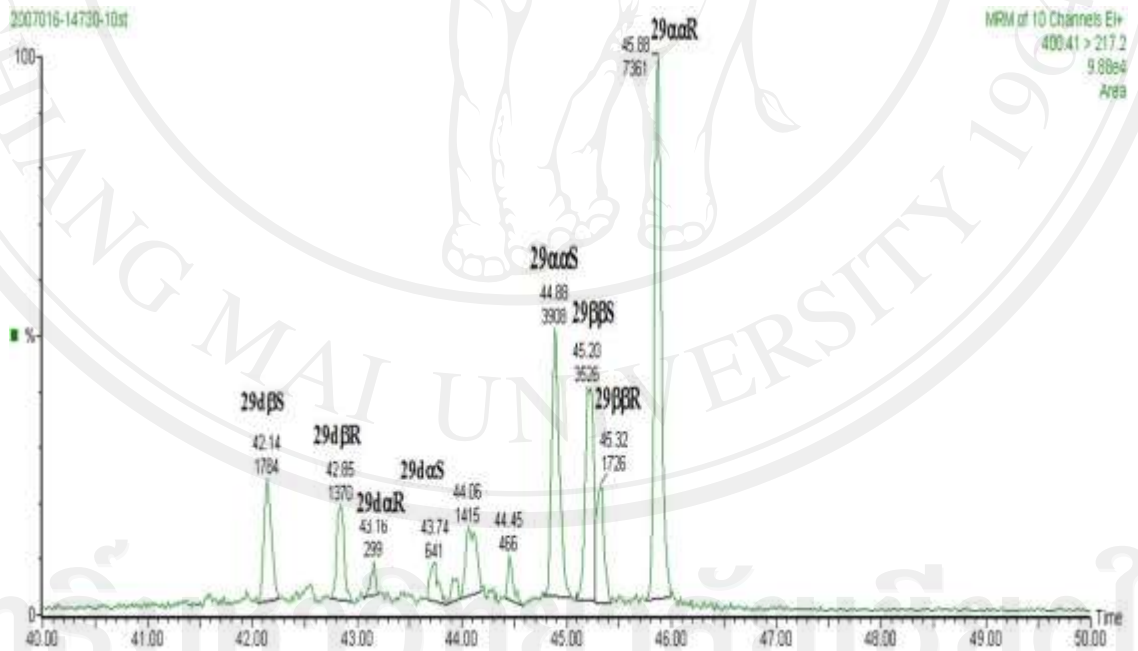
**Figure Ap-III.78:** 412→369 transition shows the distribution of bicadinanes in the sample 14755 of P-SKwell.



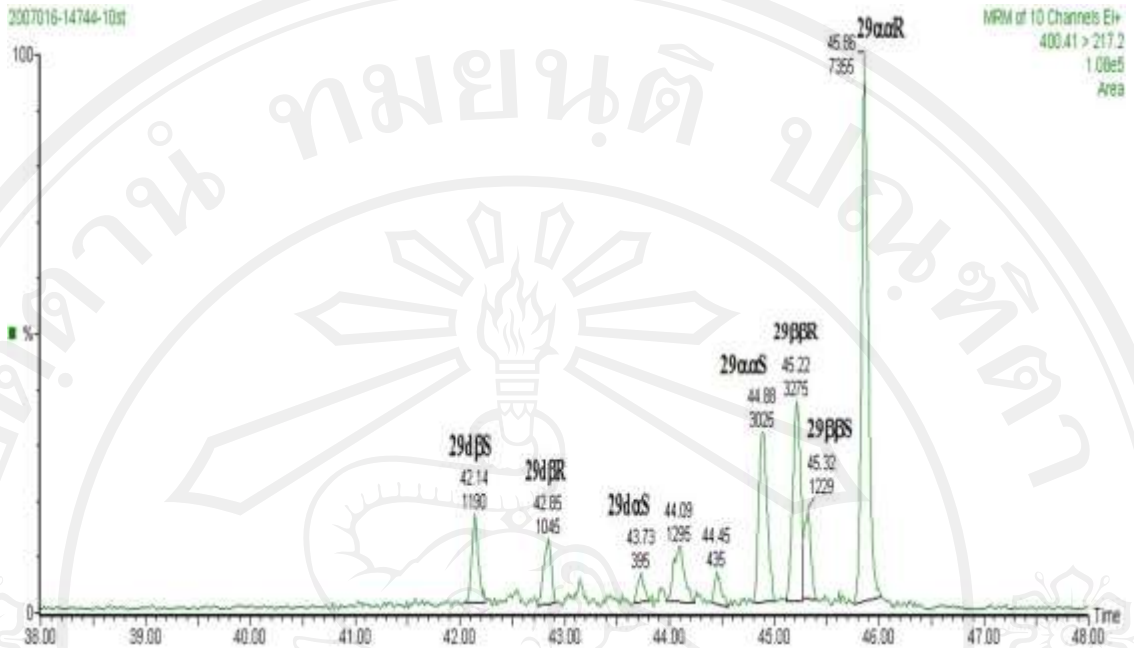
**Figure Ap-III.79:** 412→369 transition shows the distribution of bicadinanes in the sample 14759 of P-SKwell.



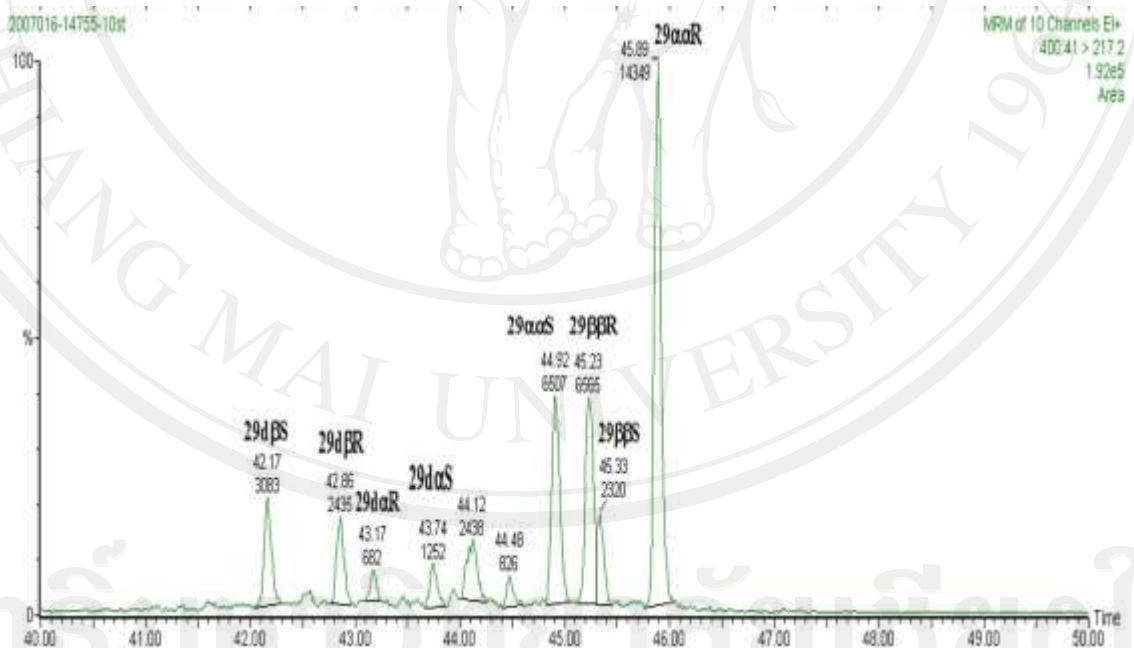
**Figure Ap-III.80:** 412→369 transition shows the distribution of bicadinanes in the sample 14761 of P-SKwell.



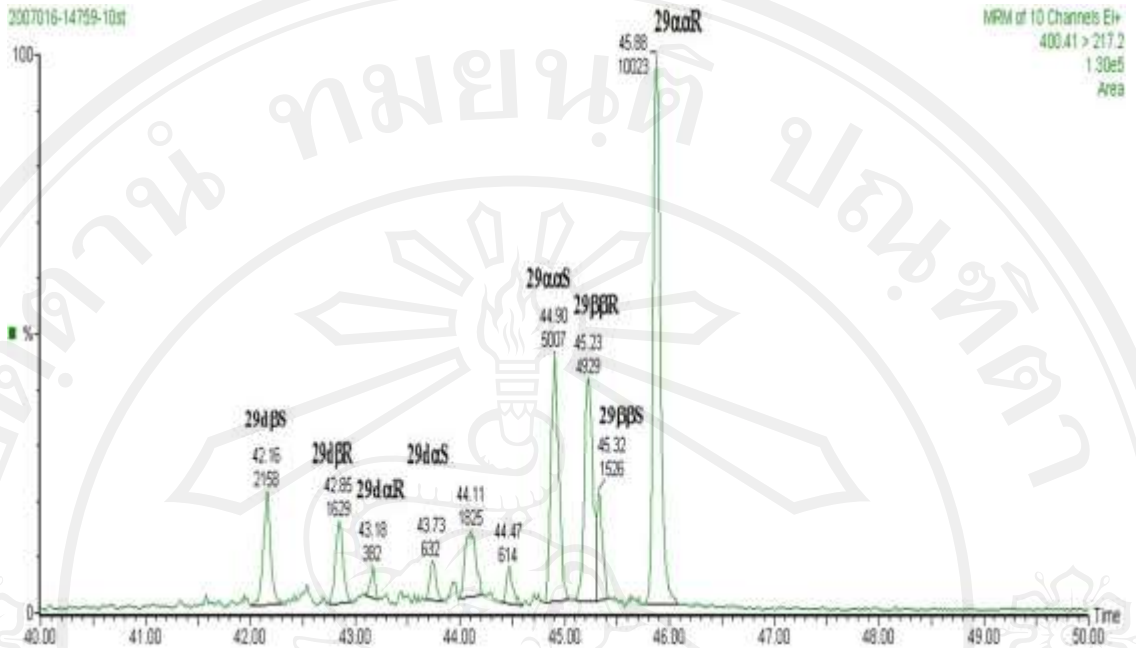
**Figure Ap-III.81:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14730 of P-SKwell.



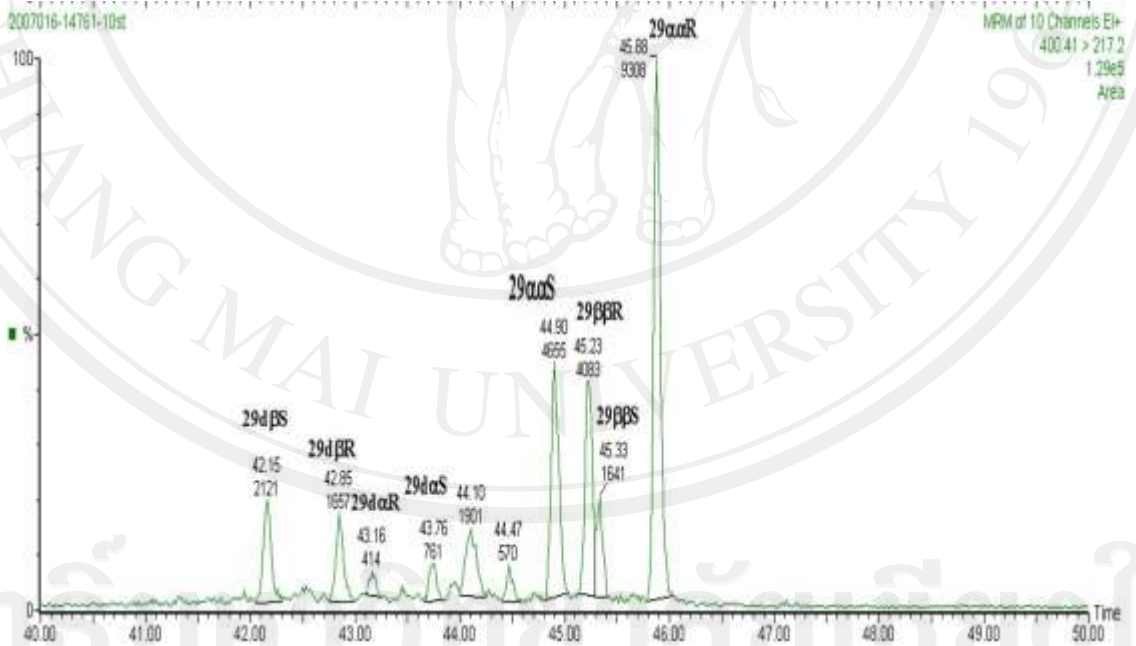
**Figure Ap-III.82:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14744 of P-SKwell.



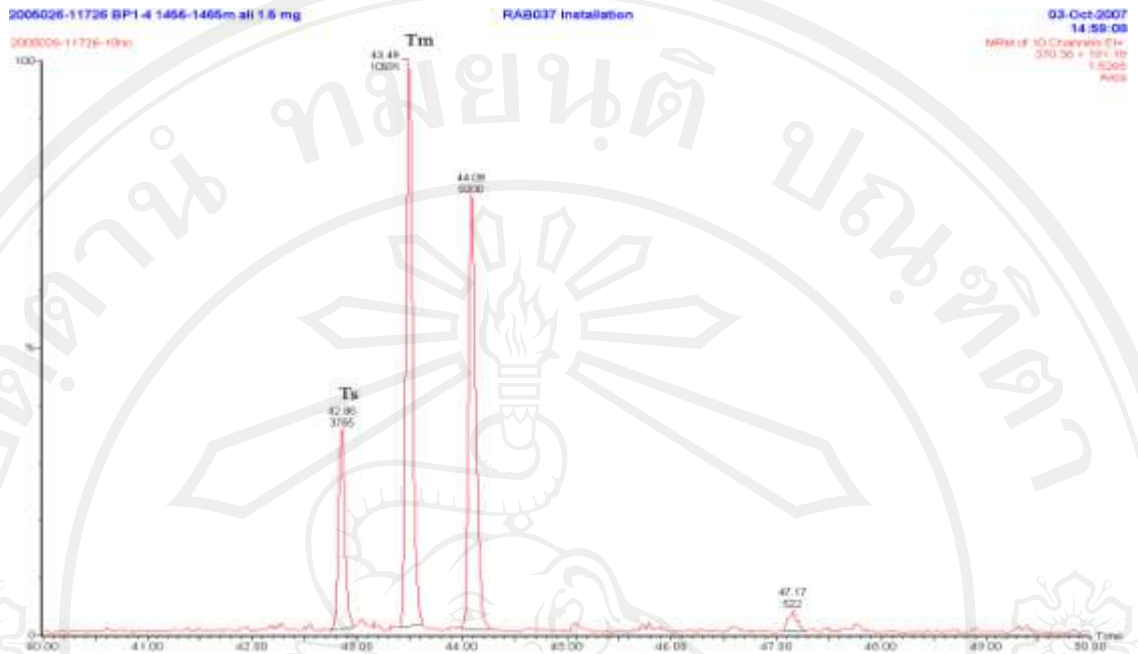
**Figure Ap-III.83:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14755 of P-SKwell.



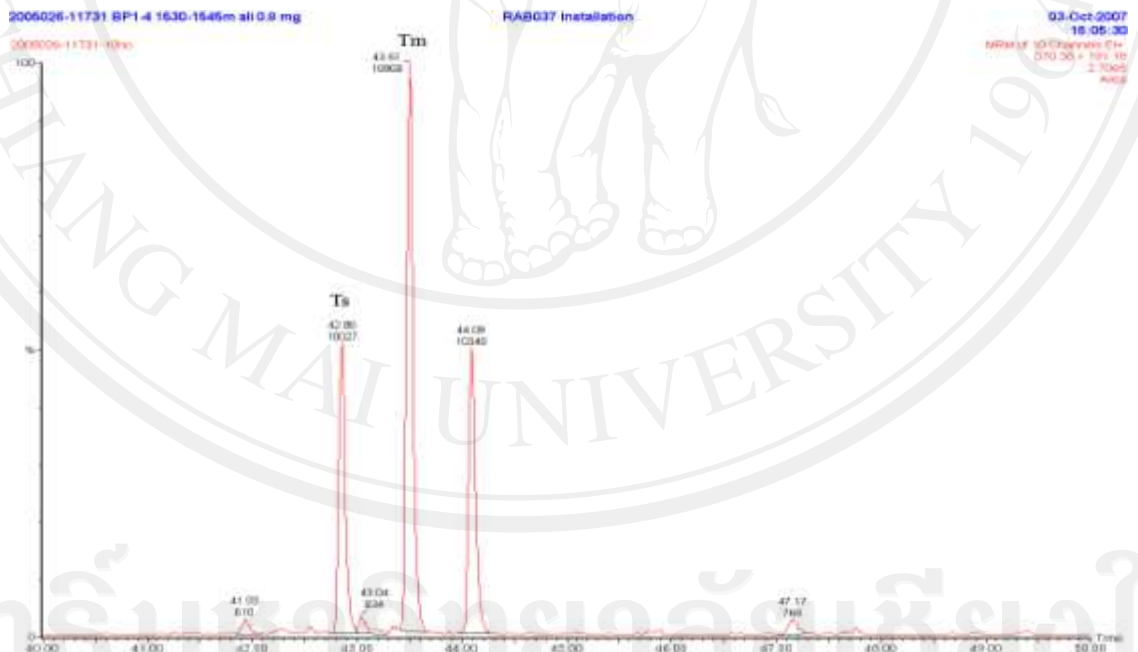
**Figure Ap-III.84:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14759 of P-SKwell.



**Figure Ap-III.85:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 14761 of P-SKwell.

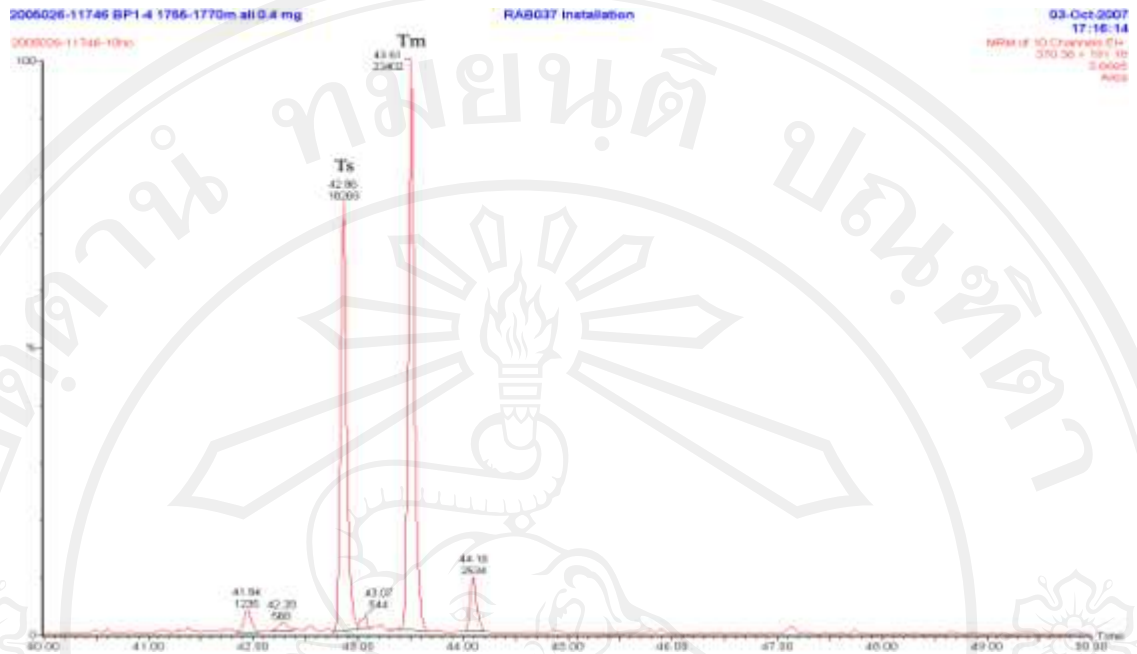


**Figure Ap-III.86:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11726 of SP1 well.

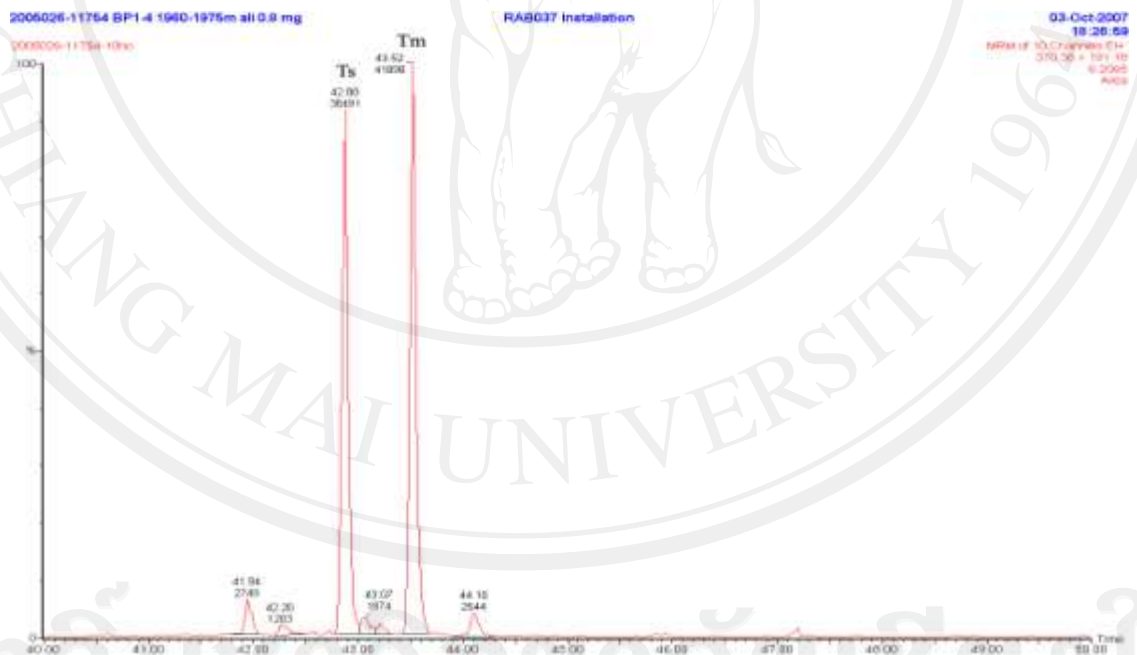


**Figure Ap-III.87:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11731 of SP1 well.

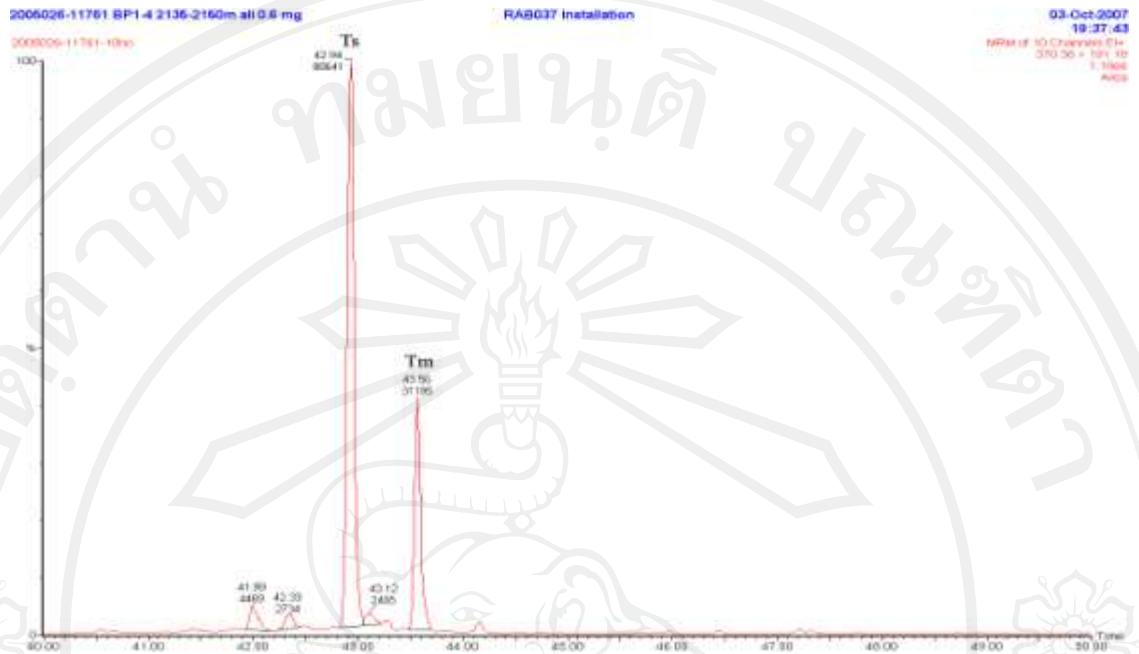




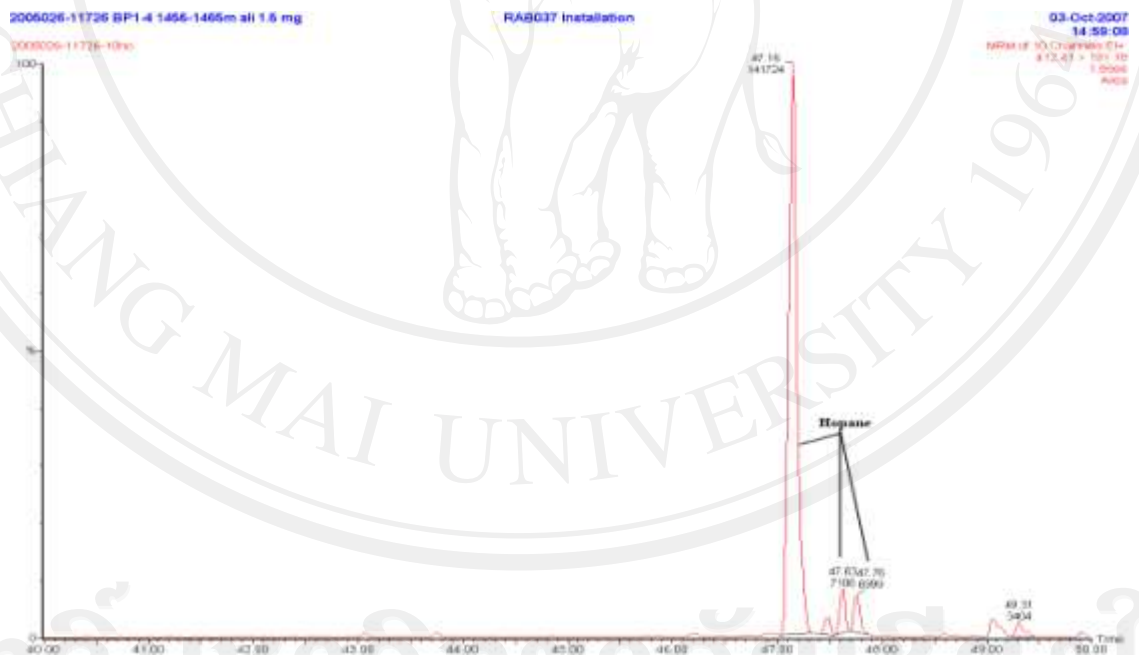
**Figure Ap-III.88:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11746 of SP1 well.



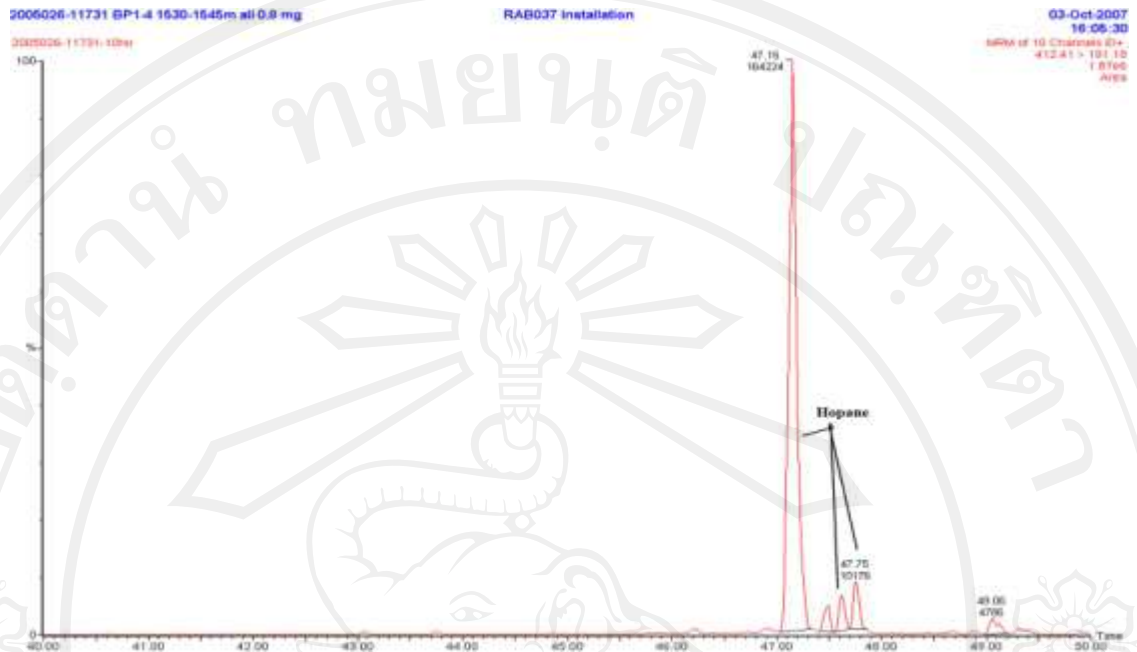
**Figure Ap-III.89:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11754 of SP1 well.



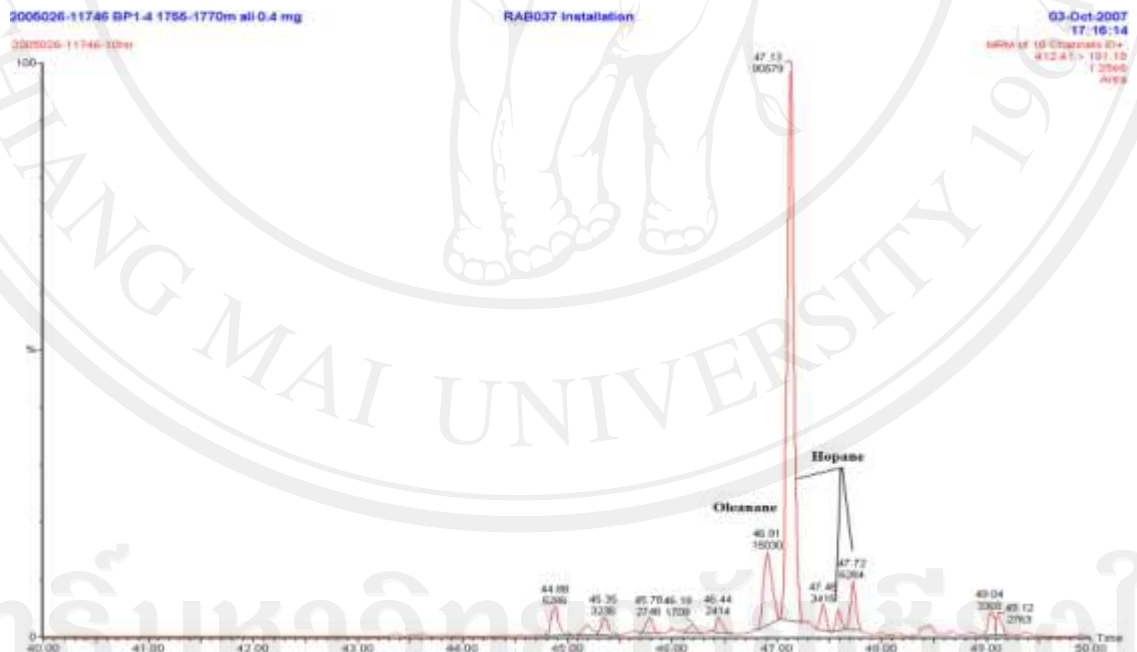
**Figure Ap-III.90:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11761 of SP1 well.



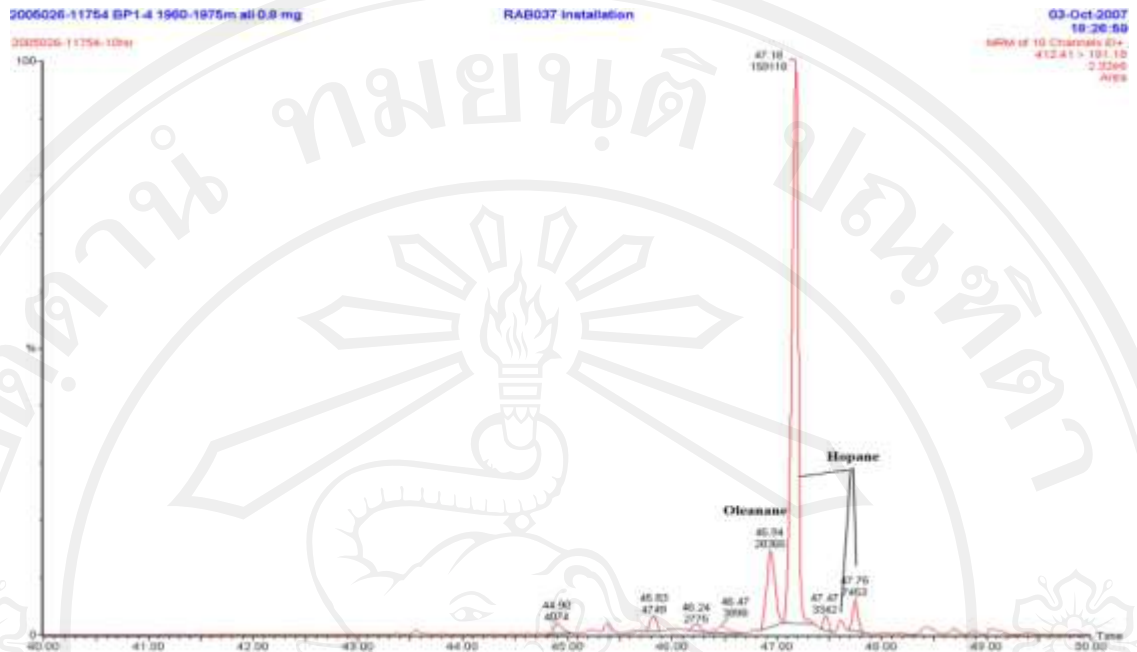
**Figure Ap-III.91:** 412→191 transitions showing saturated C<sub>30</sub> pentacyclic triterpanes in the sample 11726 of SP1 well.



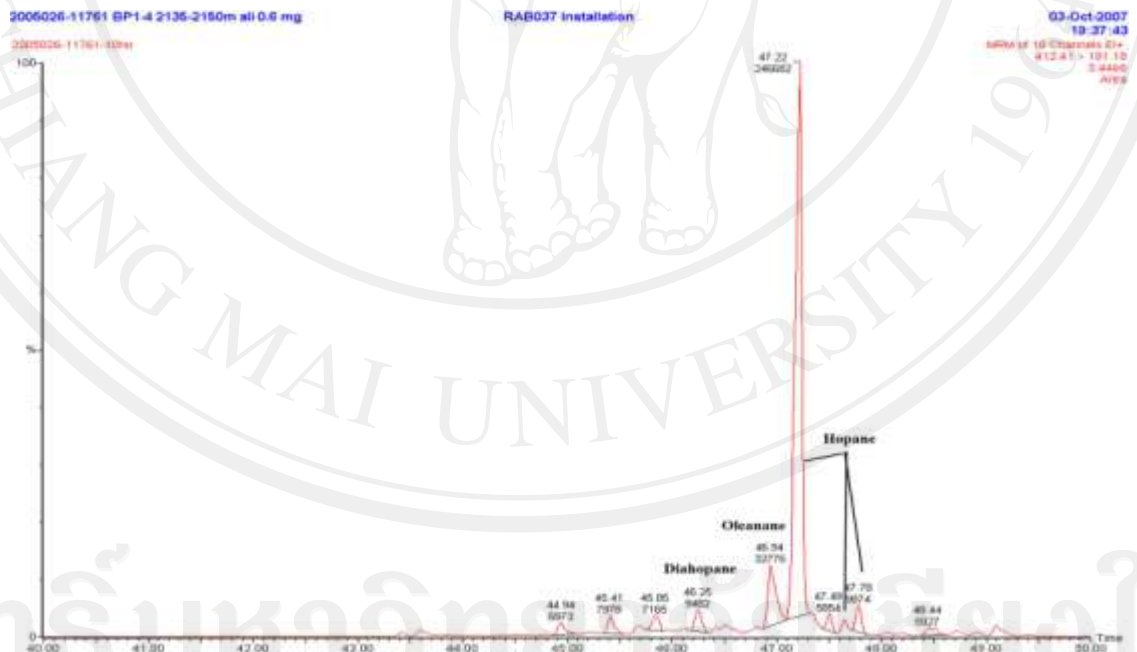
**Figure Ap-III.92:** 412→191 transitions showing saturated C<sub>30</sub> pentacyclic triterpanes in the sample 11731 of SP1 well.



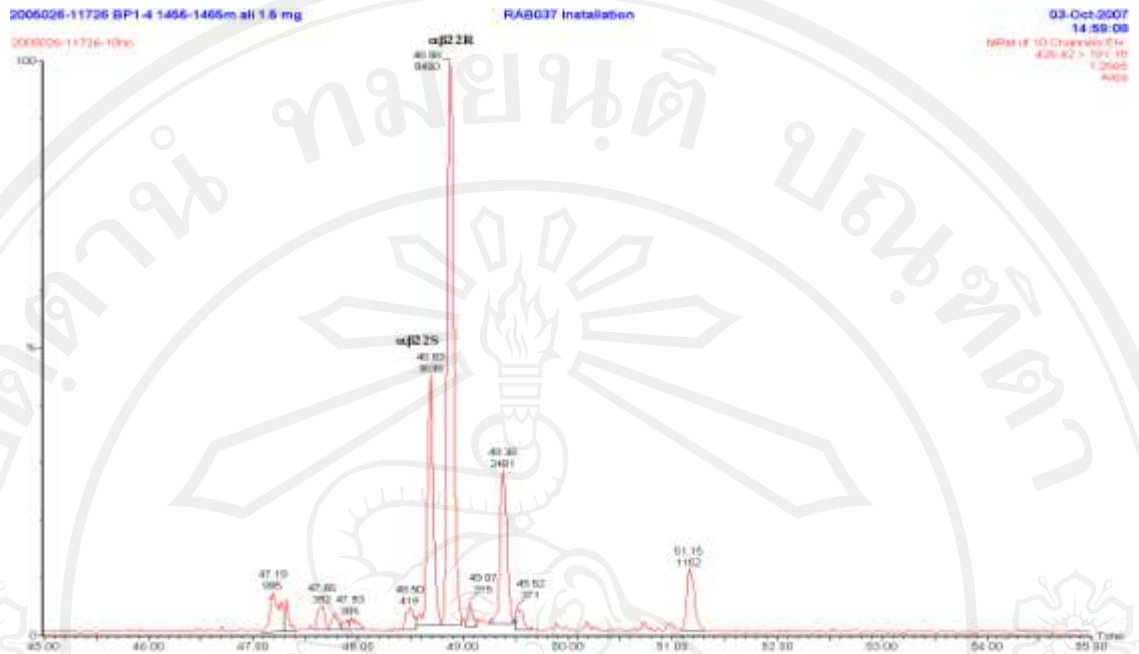
**Figure Ap-III.93:** 412→191 transitions showing saturated C<sub>30</sub> pentacyclic triterpanes in the sample 11746 of SP1 well.



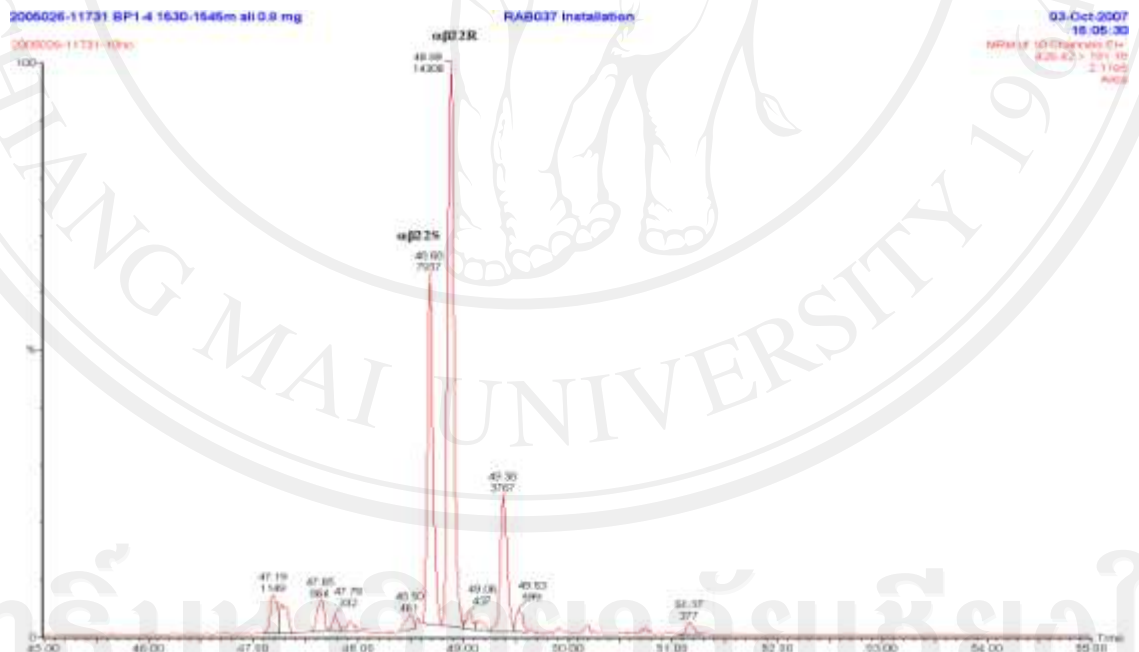
**Figure Ap-III.94:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 11754 of SP1 well.



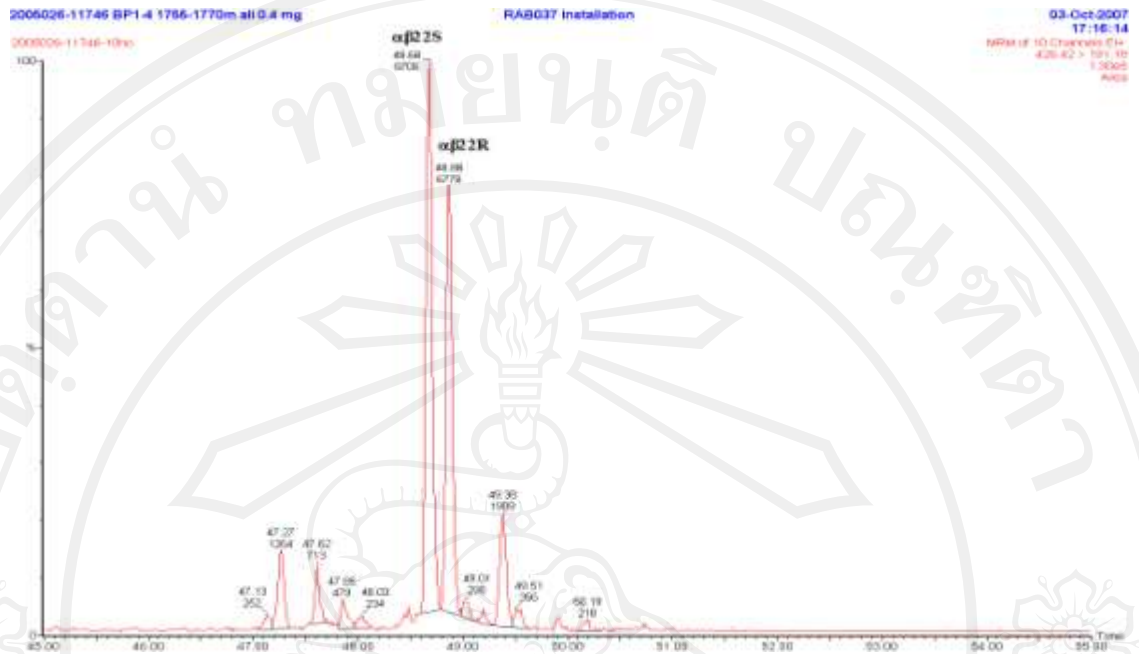
**Figure Ap-III.95:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 11761 of SP1 well.



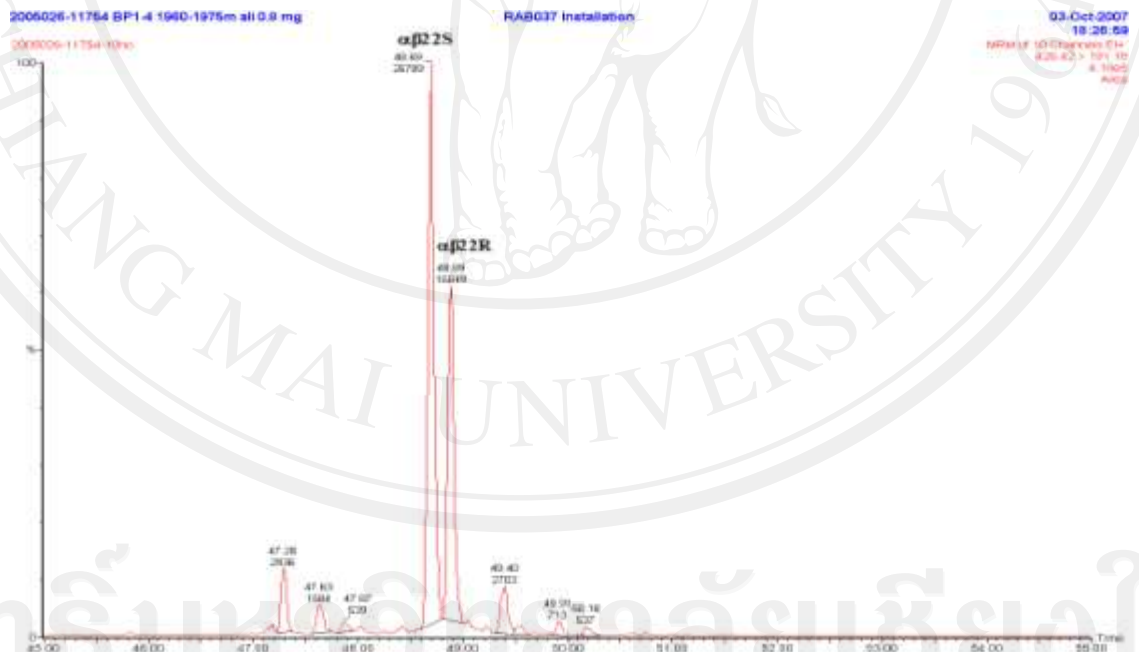
**Figure Ap-III.96:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11726 of SP1 well.



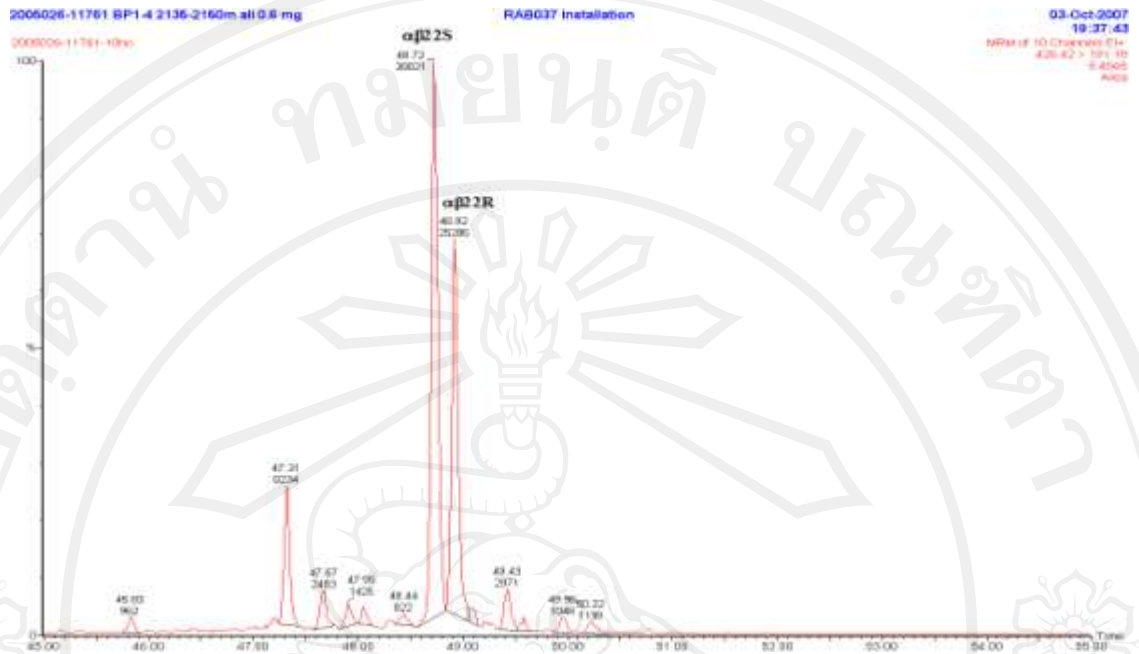
**Figure Ap-III.97:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11731 of SP1 well.



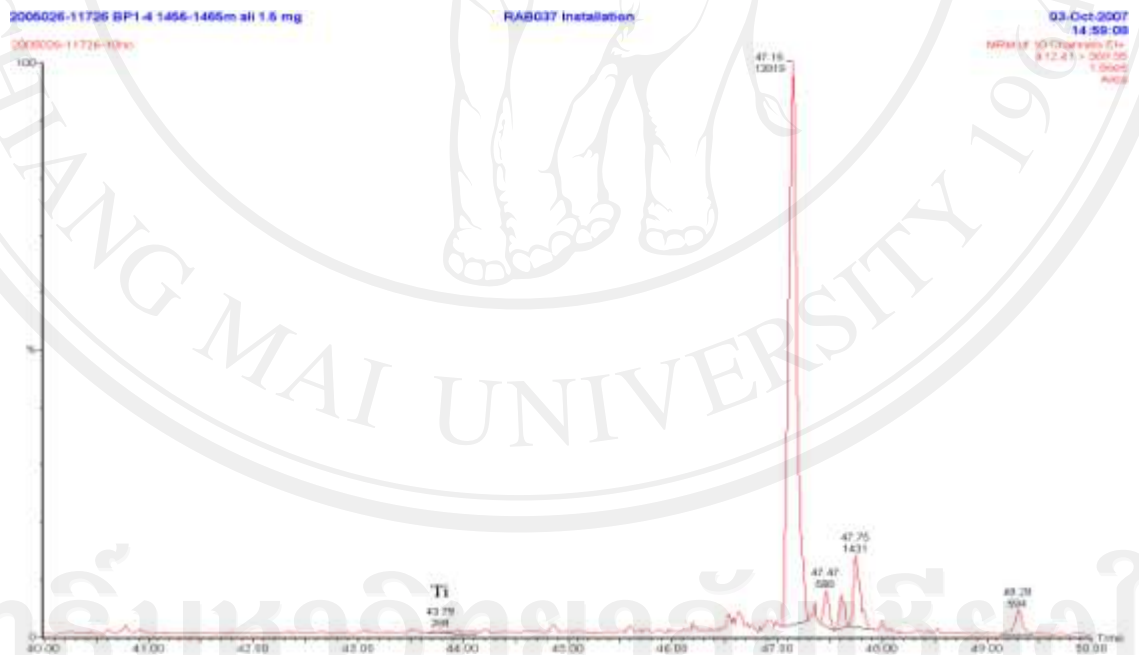
**Figure Ap-III.98:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11746 of SP1 well.



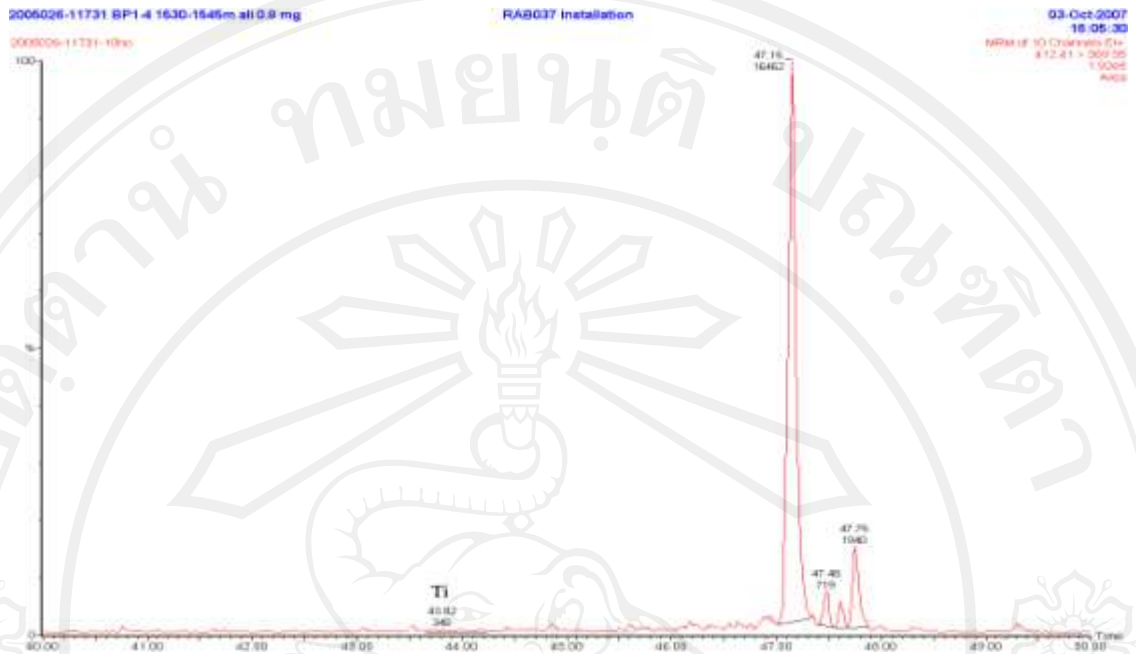
**Figure Ap-III.99:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11754 of SP1 well.



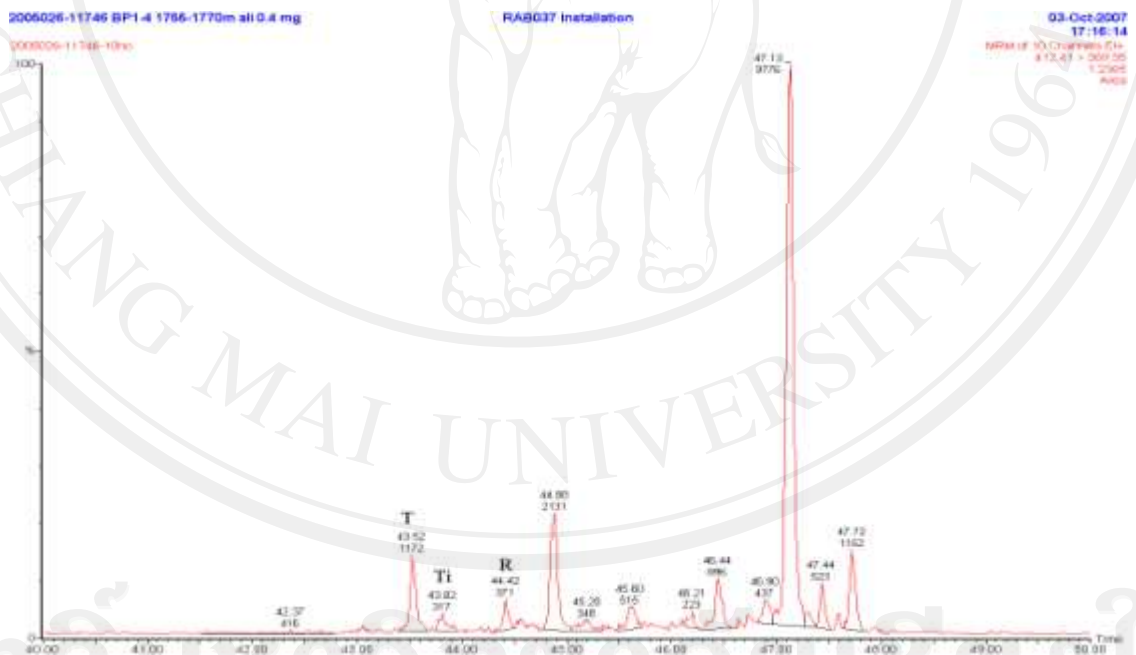
**Figure Ap-III.100:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11761 of SP1 well.



**Figure Ap-III.101:** 412→369 transition shows the distribution of bicadinanes in the sample 11726 of SP1 well.

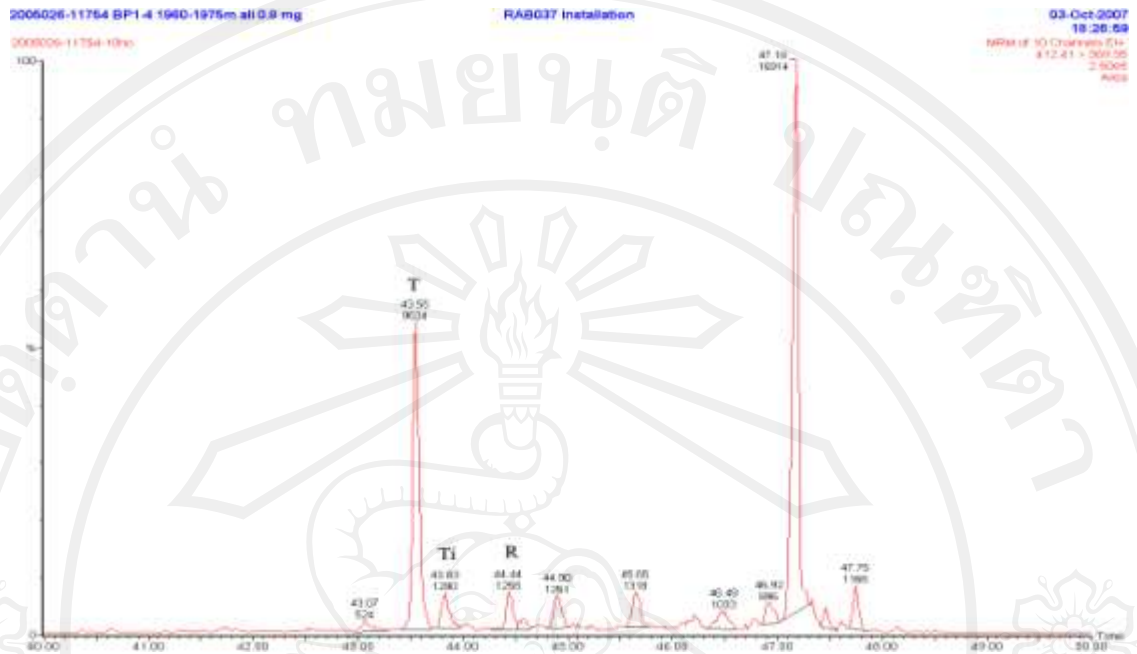


**Figure Ap-III.102:** 412→369 transition shows the distribution of bicadinanes in the sample 11731 of SP1 well.

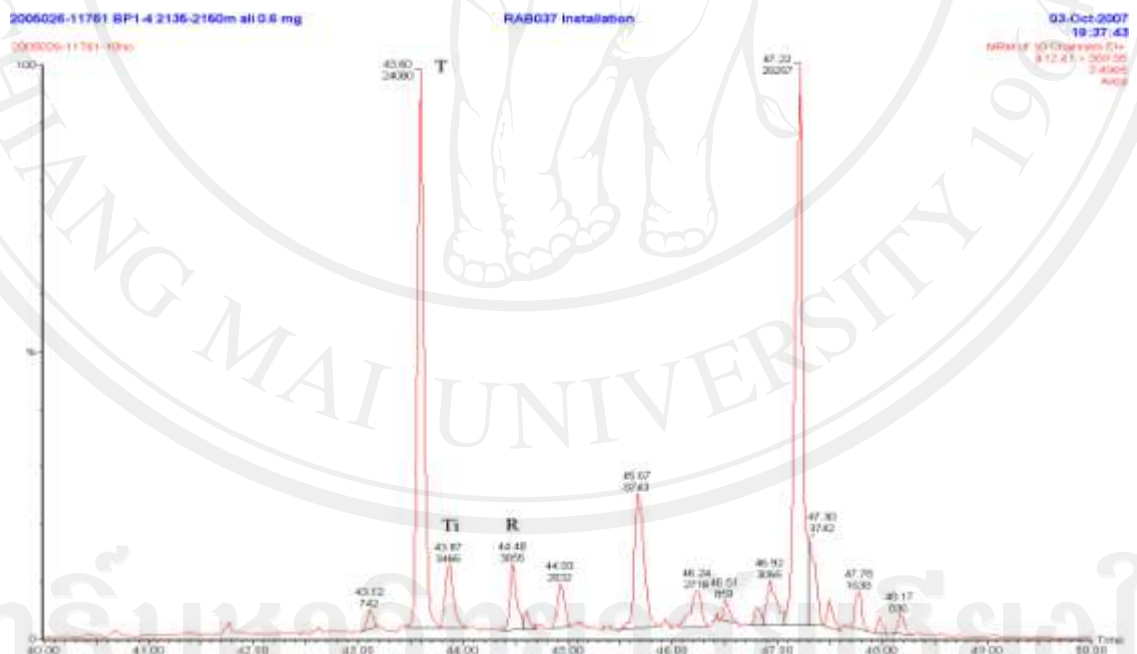


**Figure Ap-III.103:** 412→369 transition shows the distribution of bicadinanes in the sample 11746 of SP1 well.

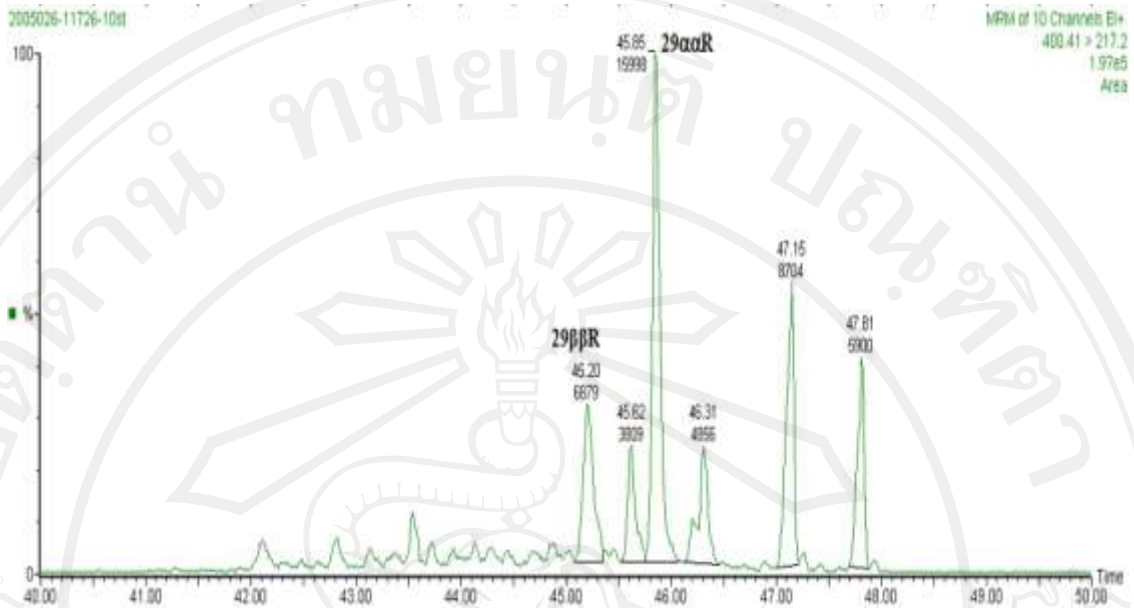




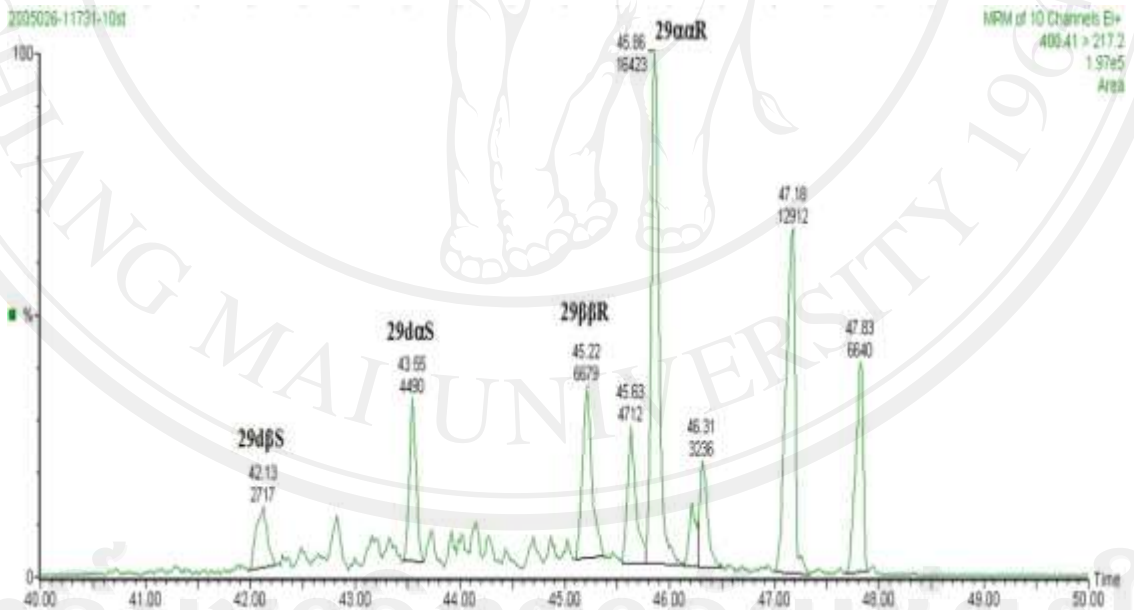
**Figure Ap-III.104:** 412→369 transition shows the distribution of bicadinanes in the sample 11754 of SP1 well.



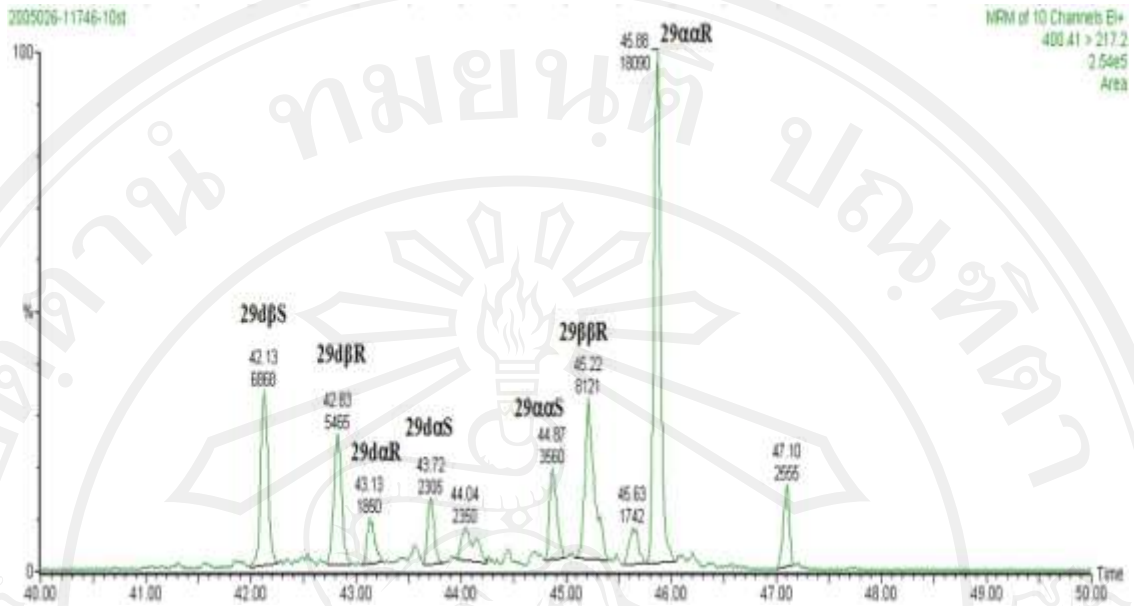
**Figure Ap-III.105:** 412→369 transition shows the distribution of bicadinanes in the sample 11761 of SP1 well.



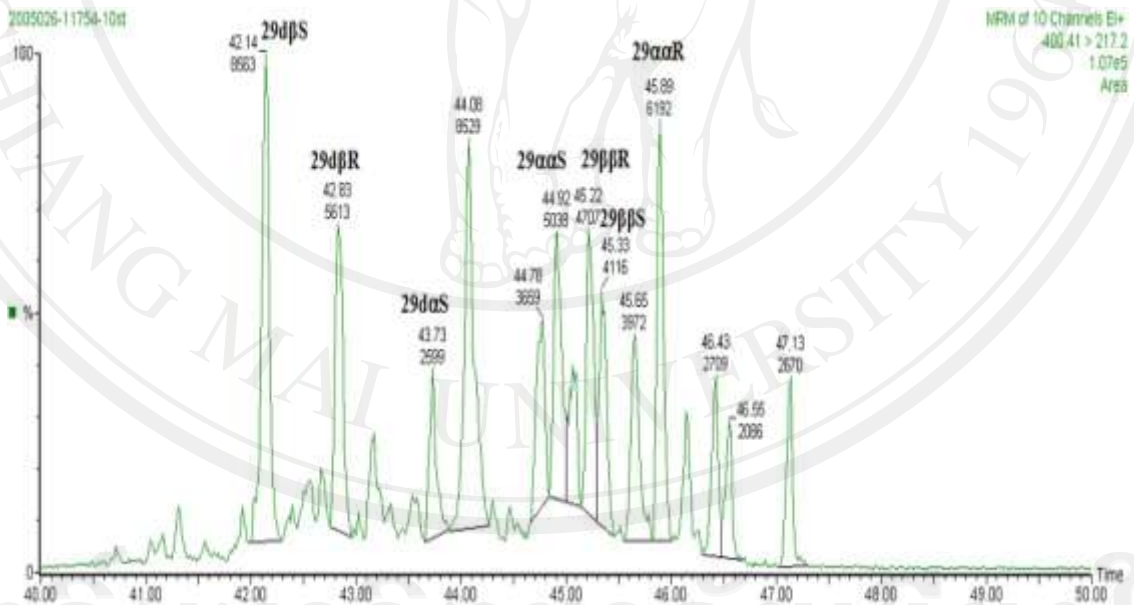
**Figure Ap-III.106:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11726 of SP1 well.



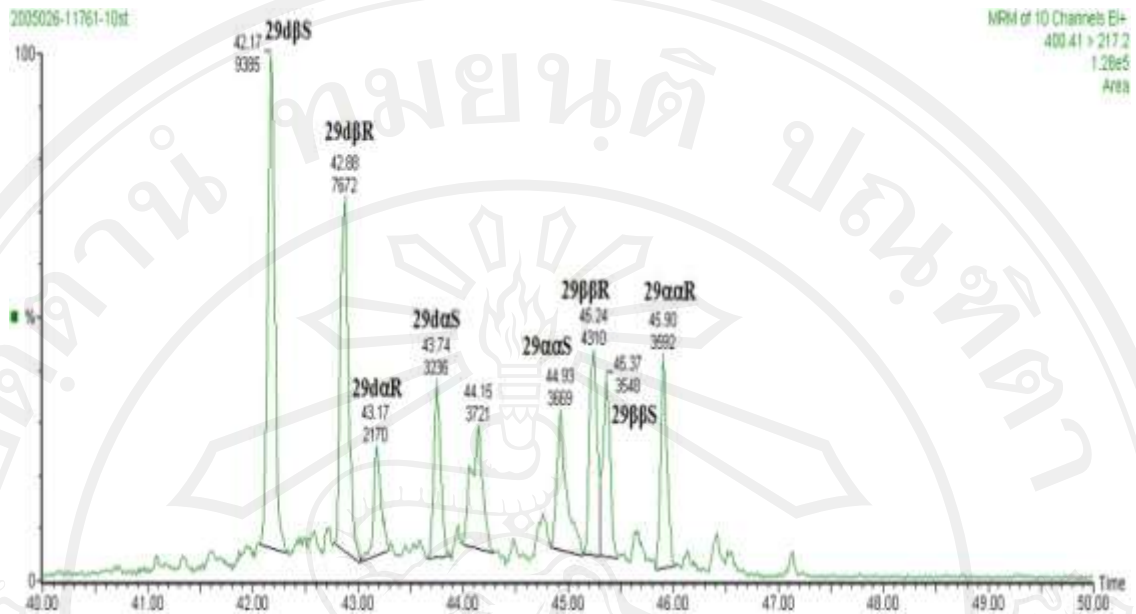
**Figure Ap-III.107:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11731 of SP1 well.



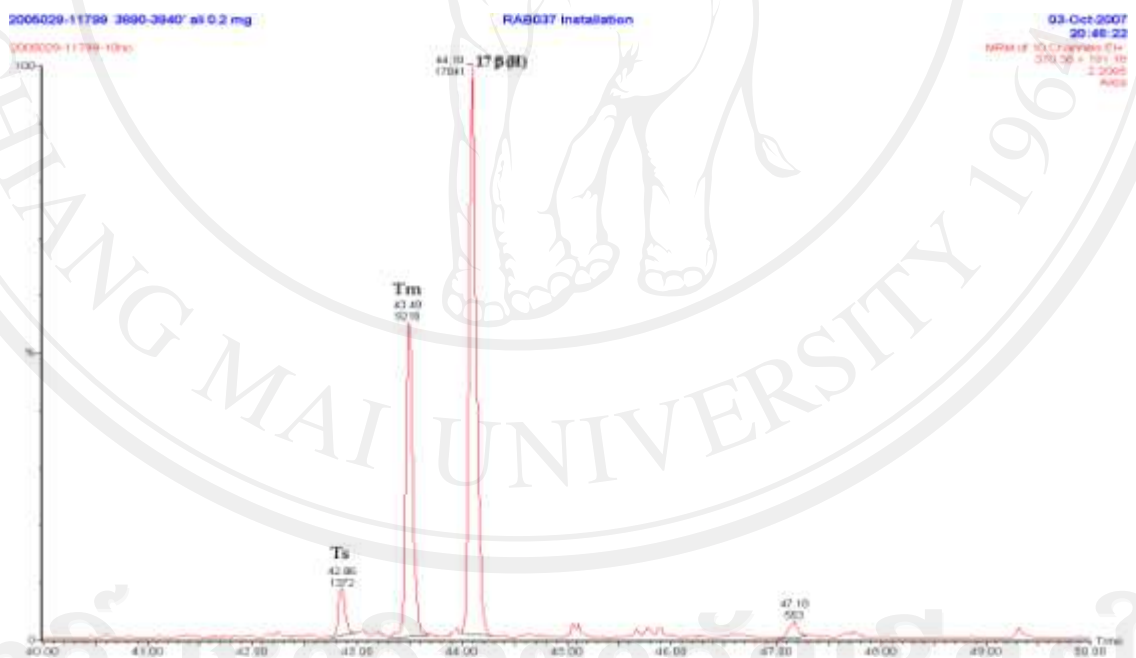
**Figure Ap-III.108:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11746 of SP1 well.



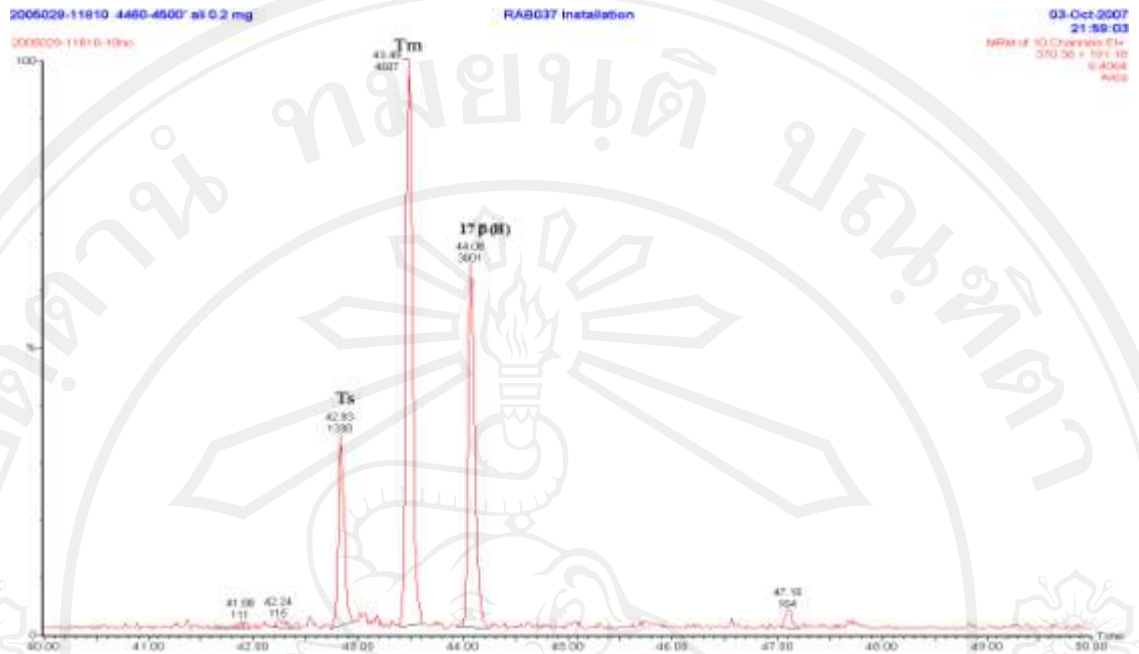
**Figure Ap-III.109:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11754 of SP1 well.



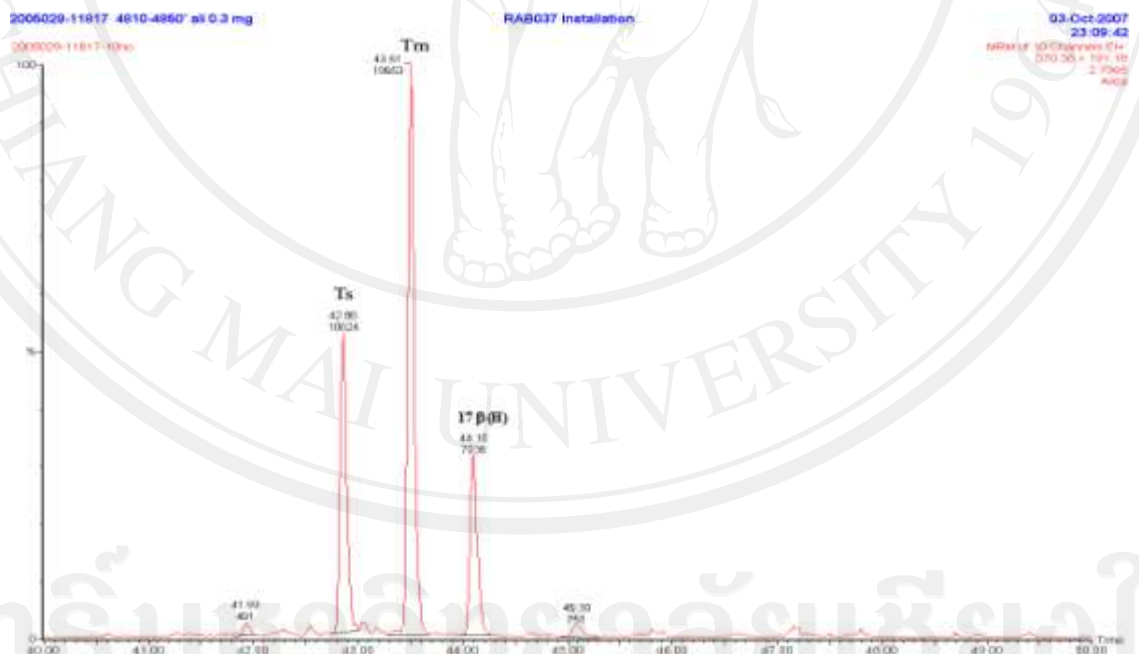
**Figure Ap-III.110:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11761 of SP1 well.



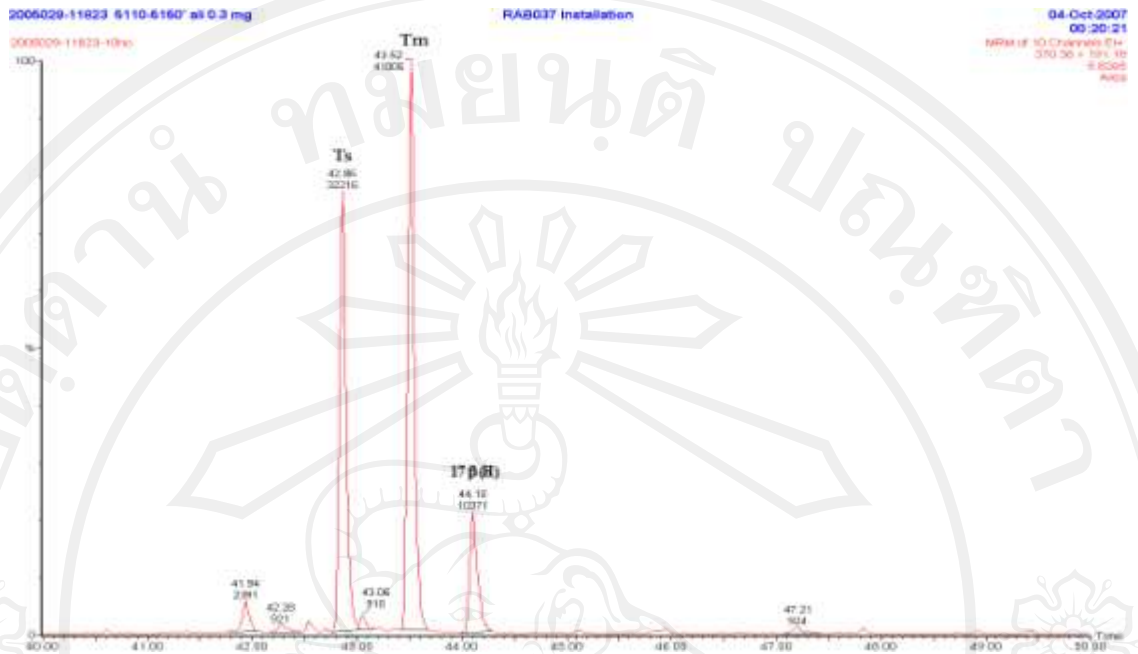
**Figure Ap-III.111:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11799 of SP2 well.



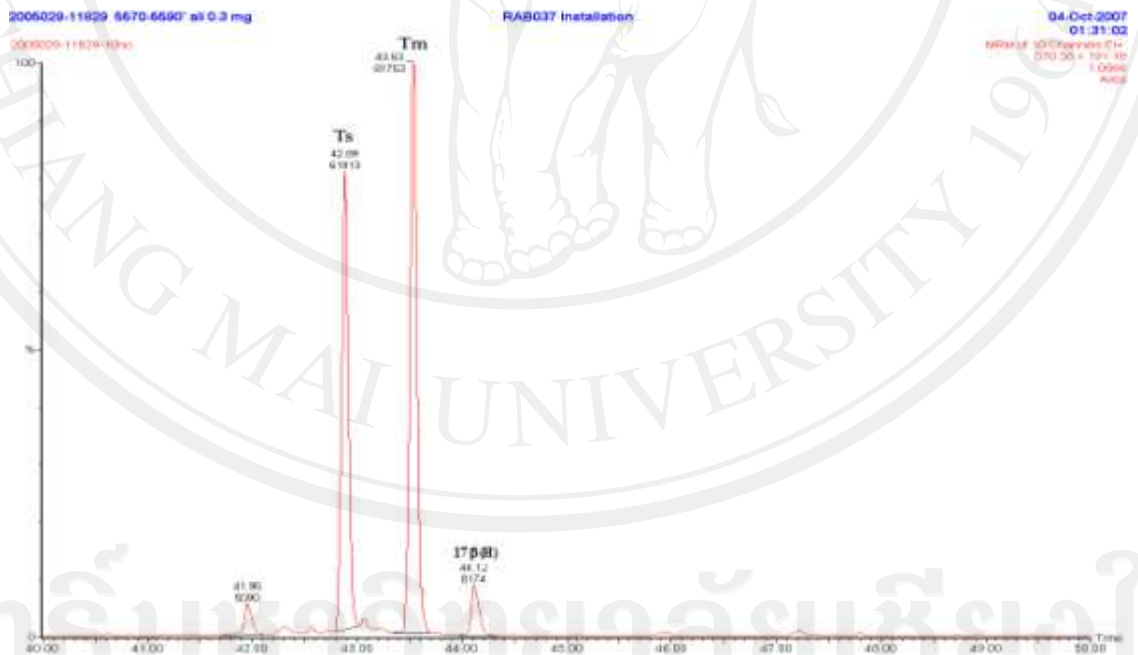
**Figure Ap-III.112:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11810 of SP2 well.



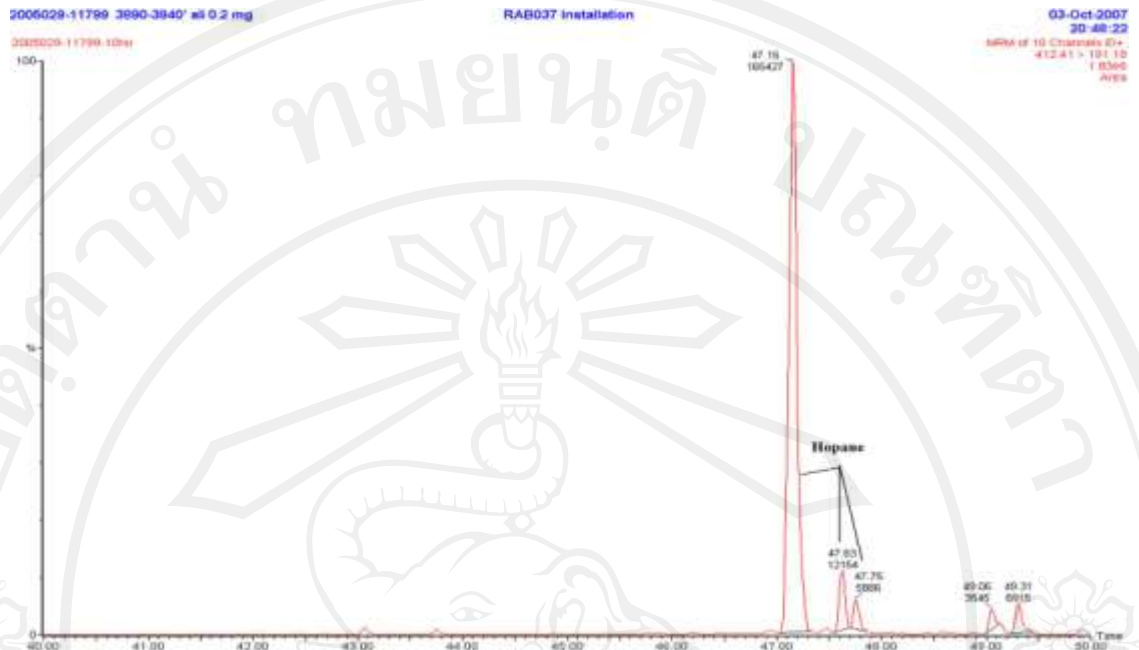
**Figure Ap-III.113:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11817 of SP2 well.



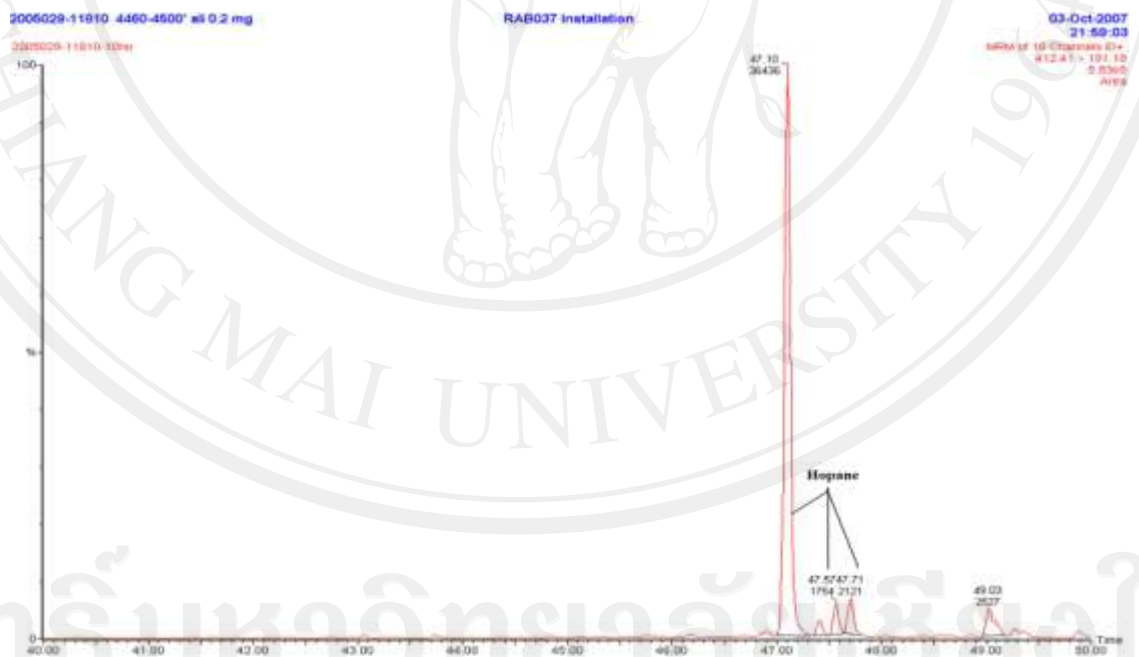
**Figure Ap-III.114:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11823 of SP2 well.



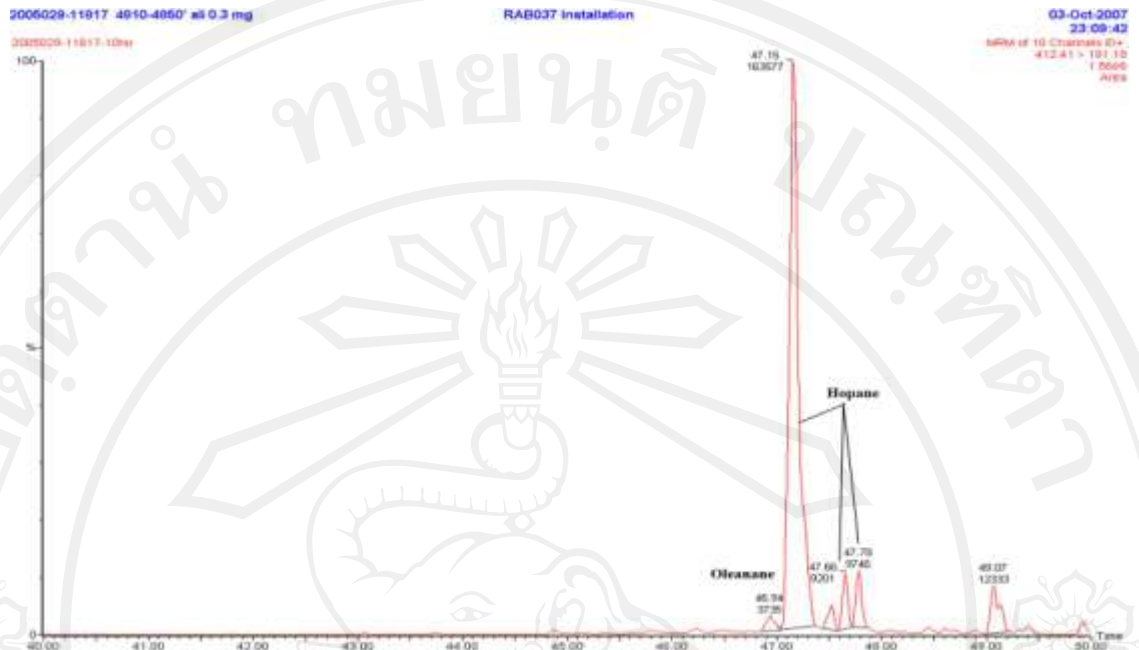
**Figure Ap-III.115:** 370→191 transitions showing Ts and Tm of saturated C<sub>27</sub> Hopane in the sample 11829 of SP2 well.



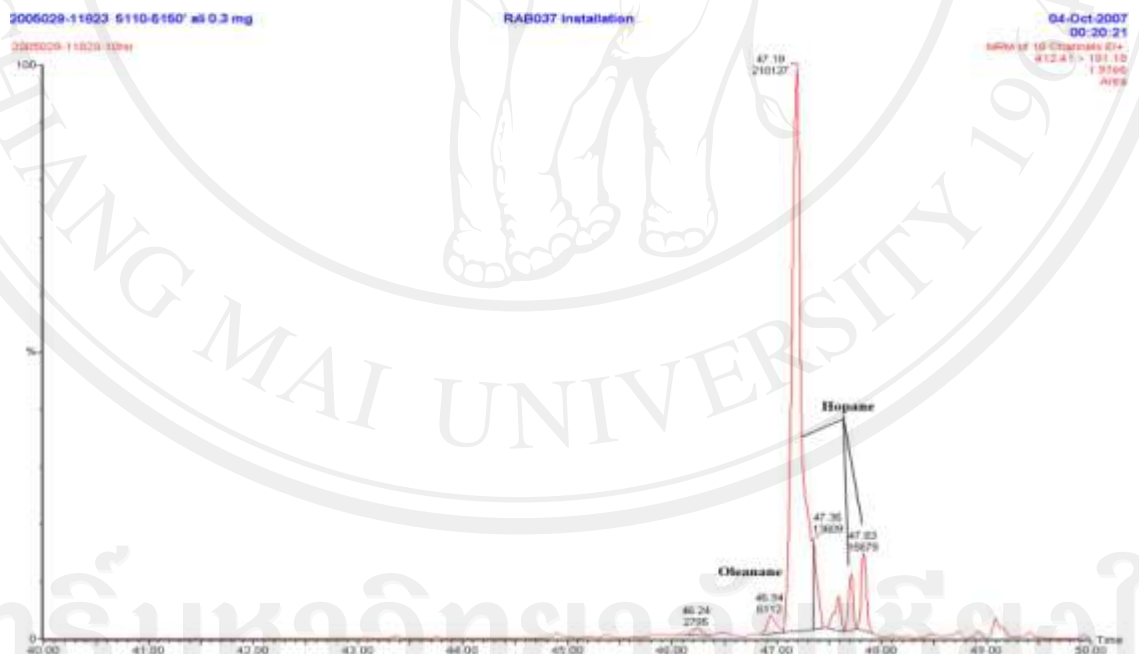
**Figure Ap-III.116:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 11799 of SP2 well.



**Figure Ap-III.117:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 11810 of SP2 well.

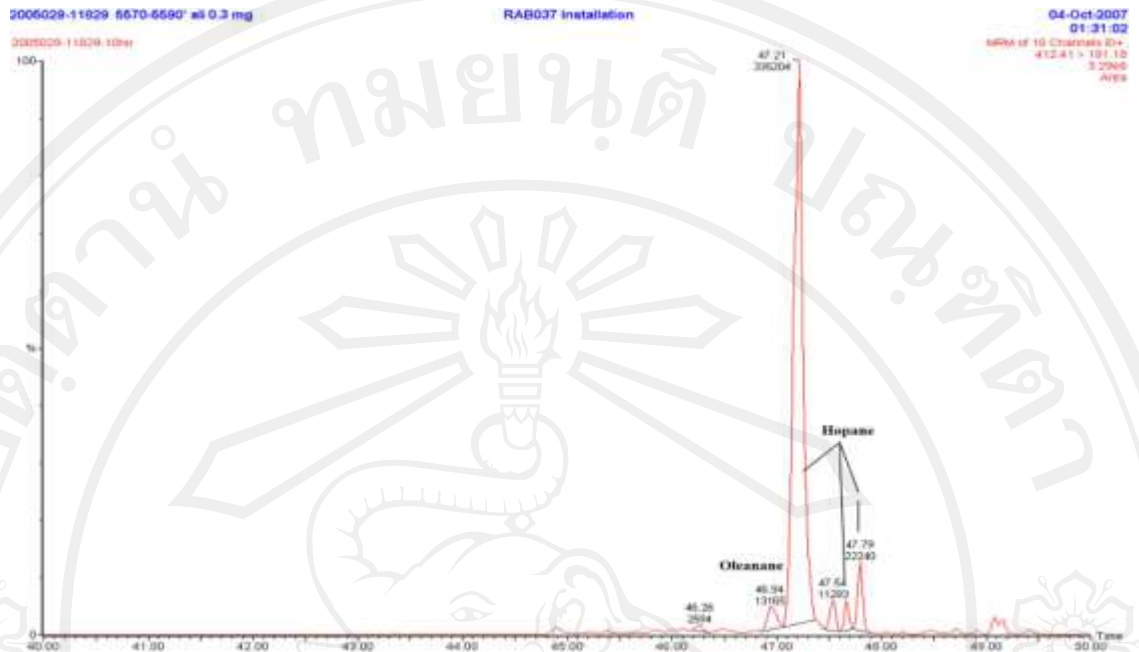


**Figure Ap-III.118:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 11817 of SP2 well.

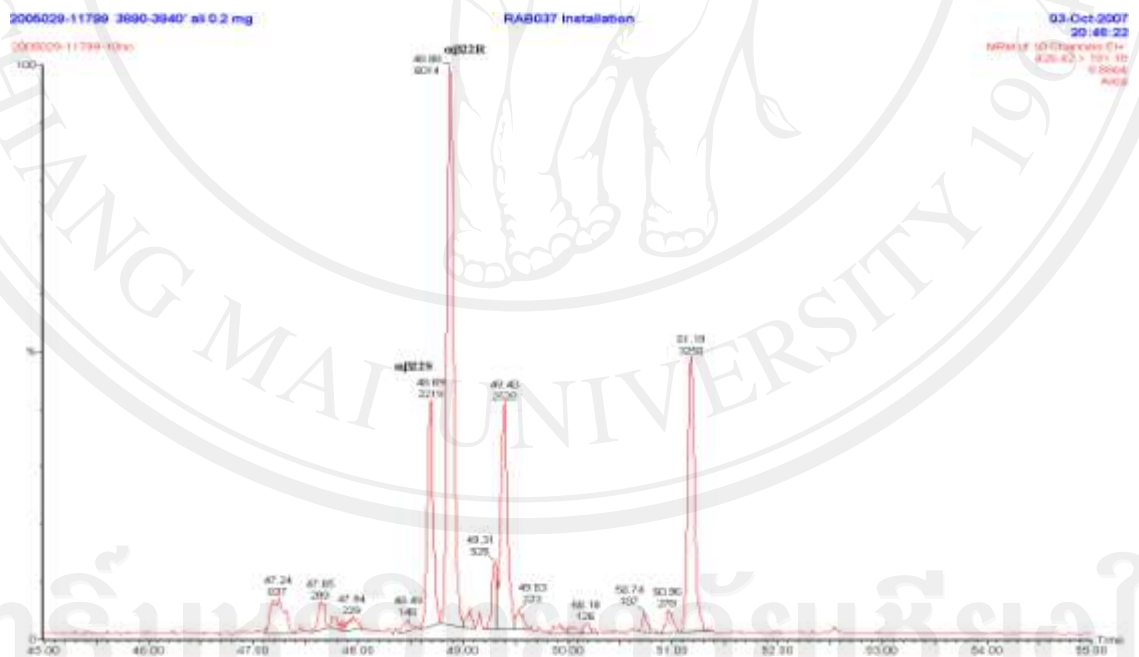


**Figure Ap-III.119:** 412→191 transitions showing saturated  $C_{30}$  pentacyclic triterpanes in the sample 11823 of SP2 well.

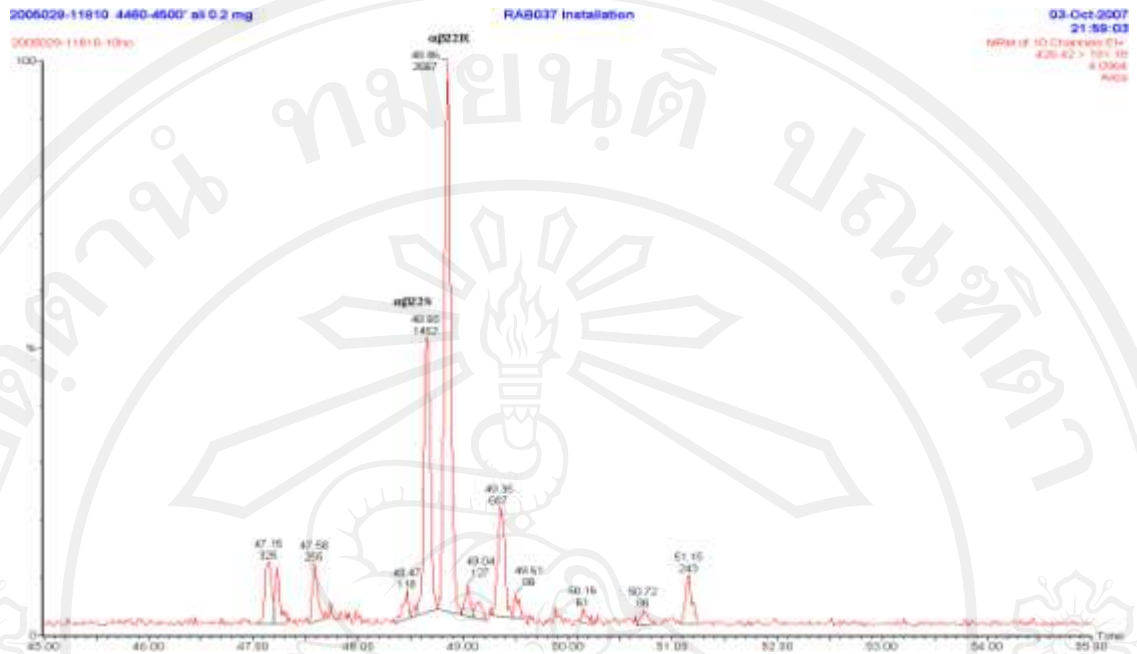




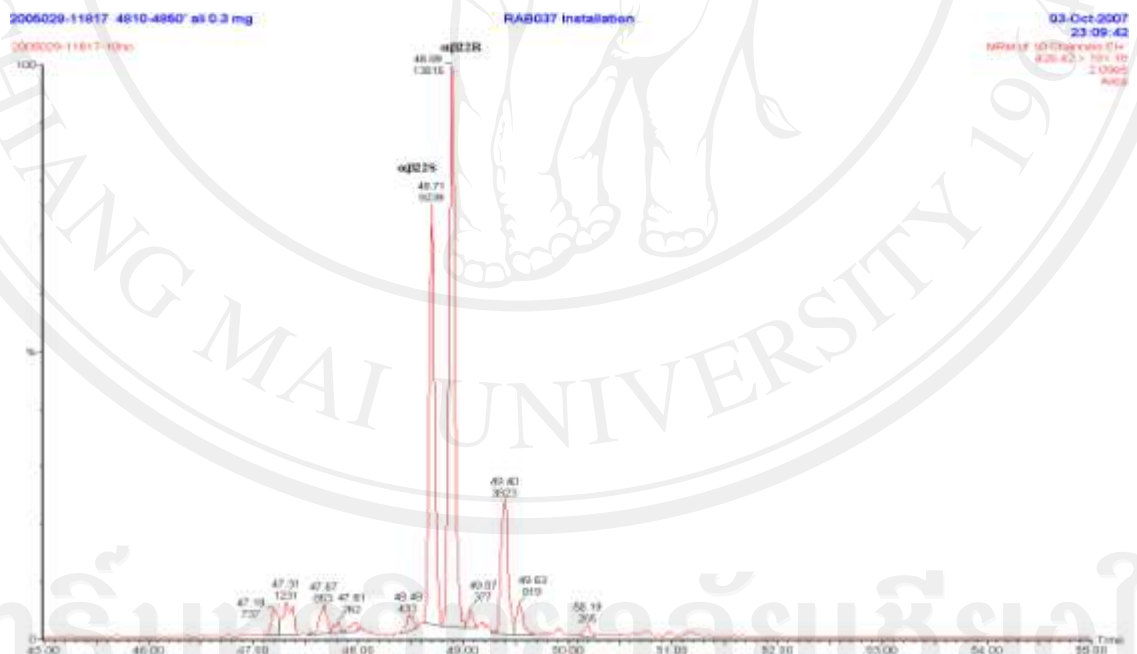
**Figure Ap-III.120:** 412→191 transitions showing saturated C<sub>30</sub> pentacyclic triterpanes in the sample 11829 of SP2 well.



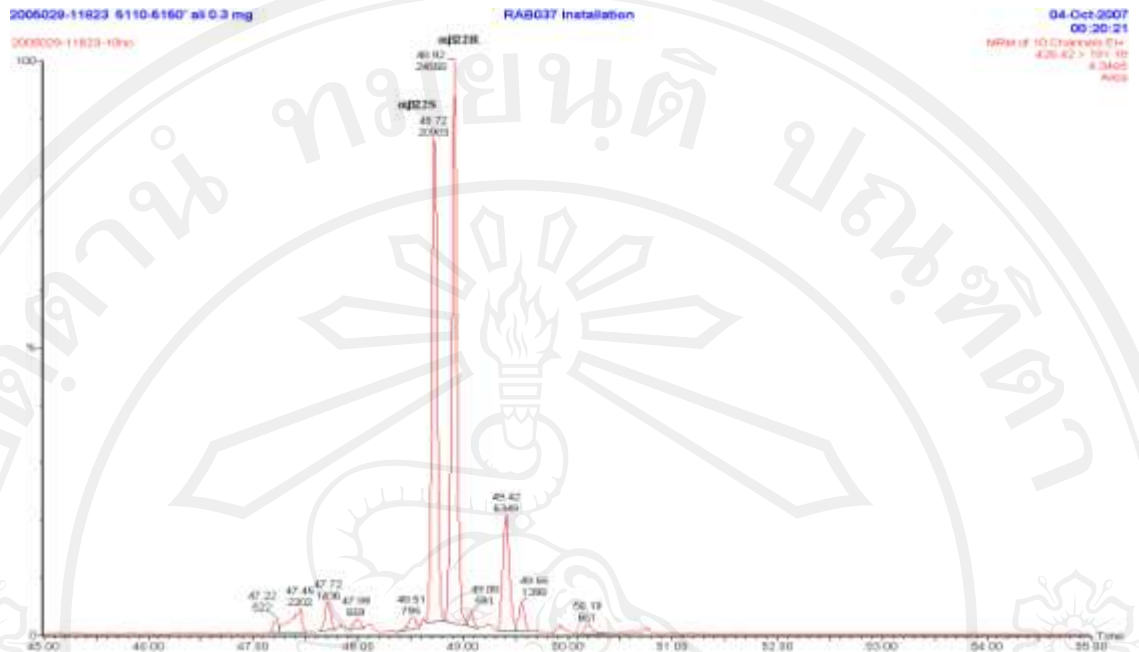
**Figure Ap-III.121:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated C<sub>31</sub> Hopane in the sample 11799 of SP2 well.



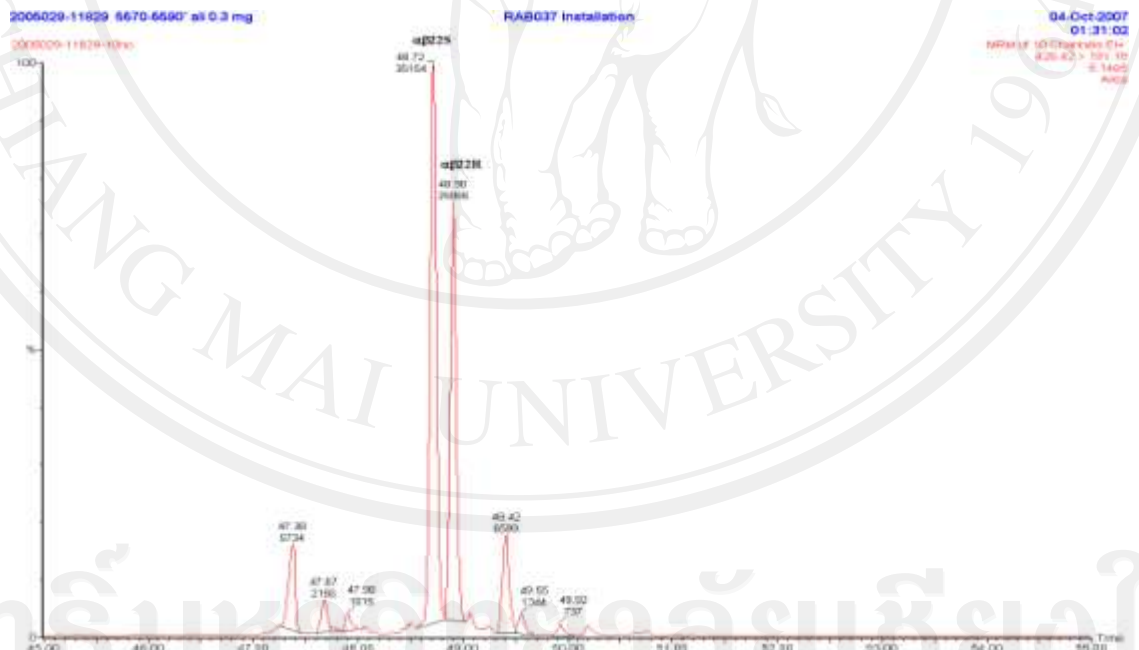
**Figure Ap-III.122:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11810 of SP2 well.



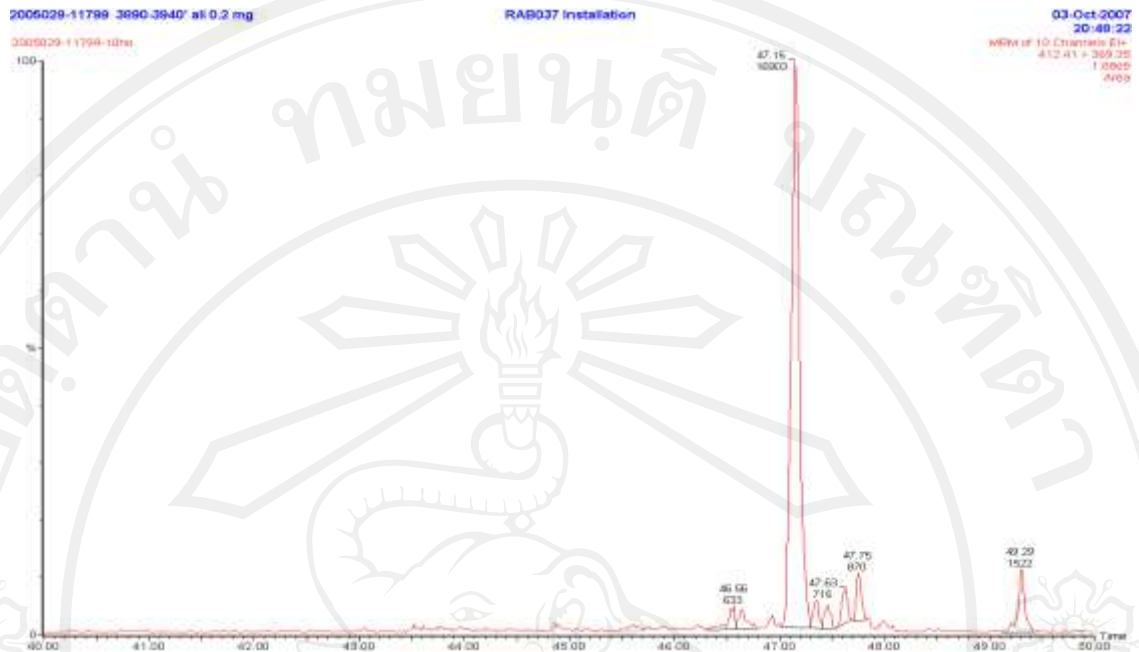
**Figure Ap-III.123:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11817 of SP2 well.



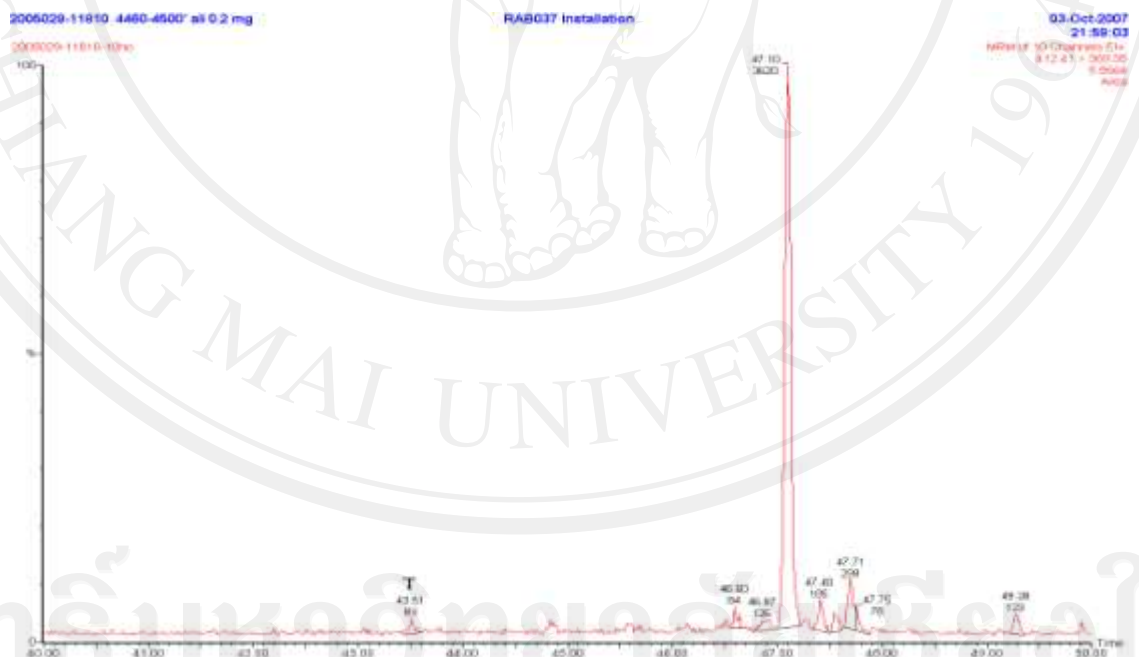
**Figure Ap-III.124:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11823 of SP2 well.



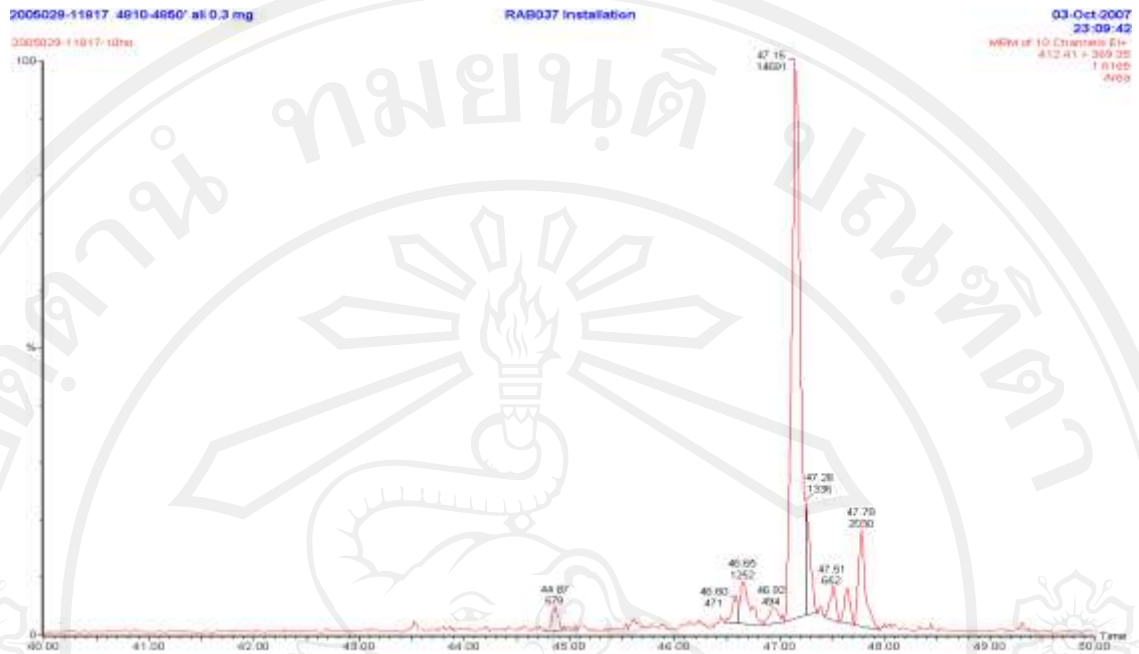
**Figure Ap-III.125:** 426→191 transitions showing  $\alpha\beta 22S$  and  $\alpha\beta 22R$  saturated  $C_{31}$  Hopane in the sample 11829 of SP2 well.



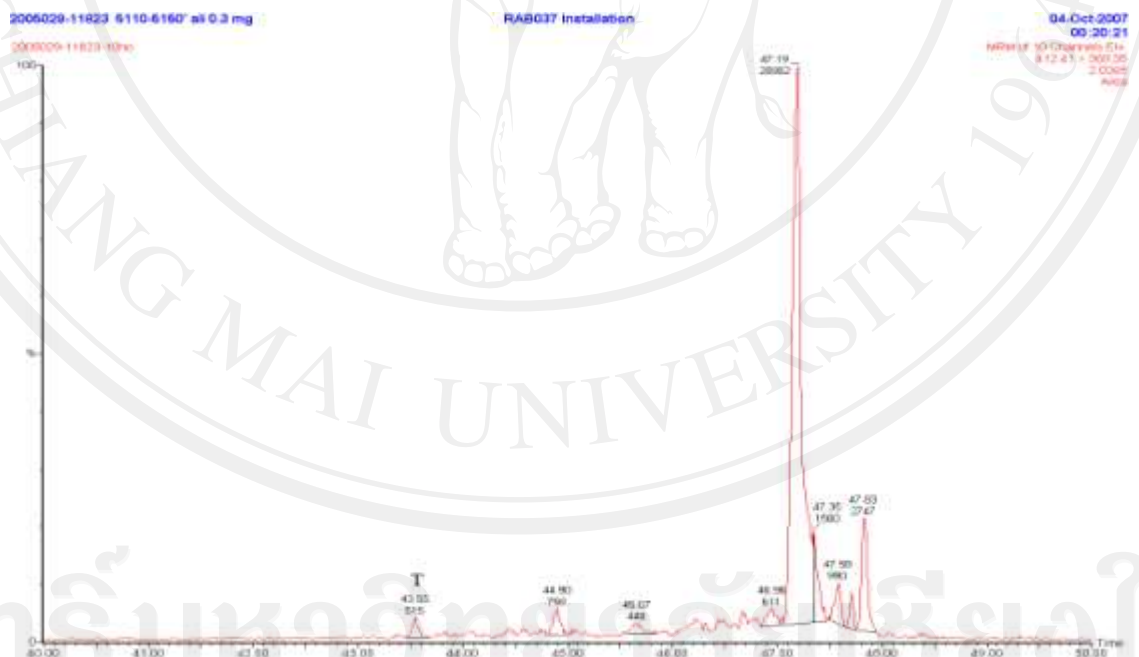
**Figure Ap-III.126:** 412→369 transition shows the distribution of bicadinanes in the sample 11799 of SP2 well.



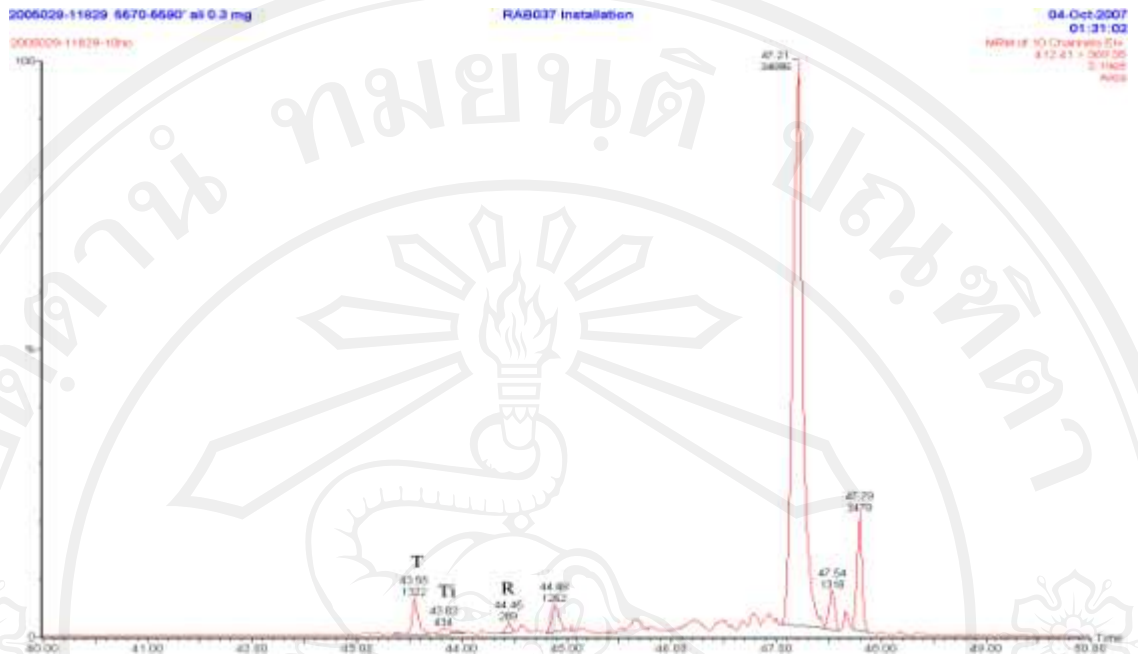
**Figure Ap-III.127:** 412→369 transition shows the distribution of bicadinanes in the sample 11810 of SP2 well.



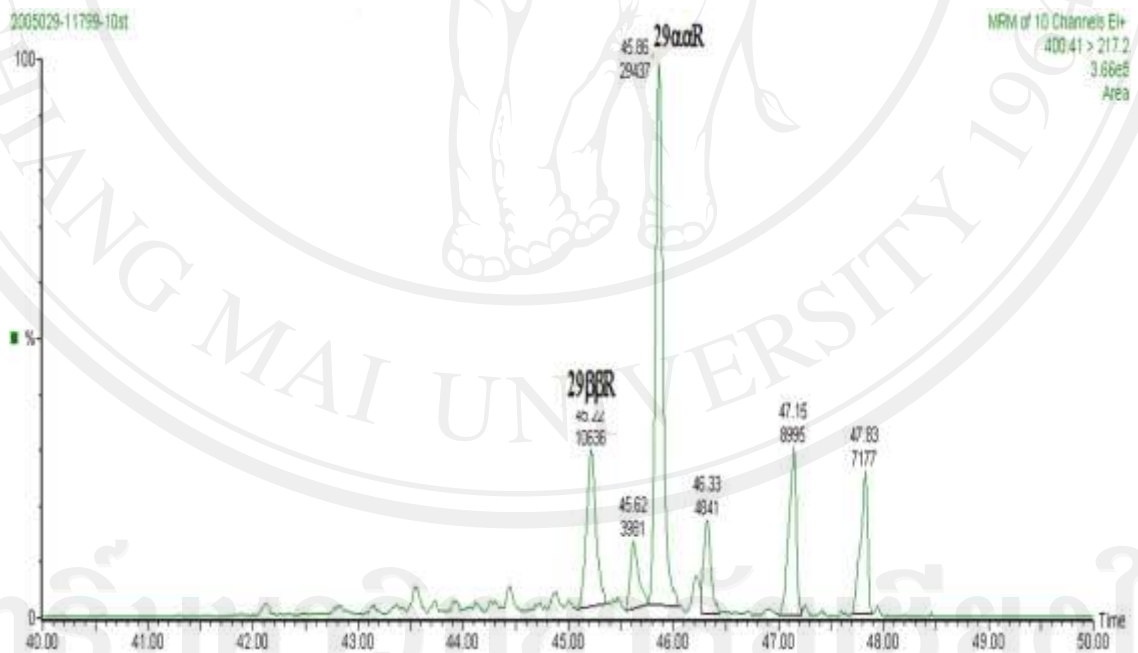
**Figure Ap-III.128:** 412→369 transition shows the distribution of bicadinanes in the sample 11817 of SP2 well.



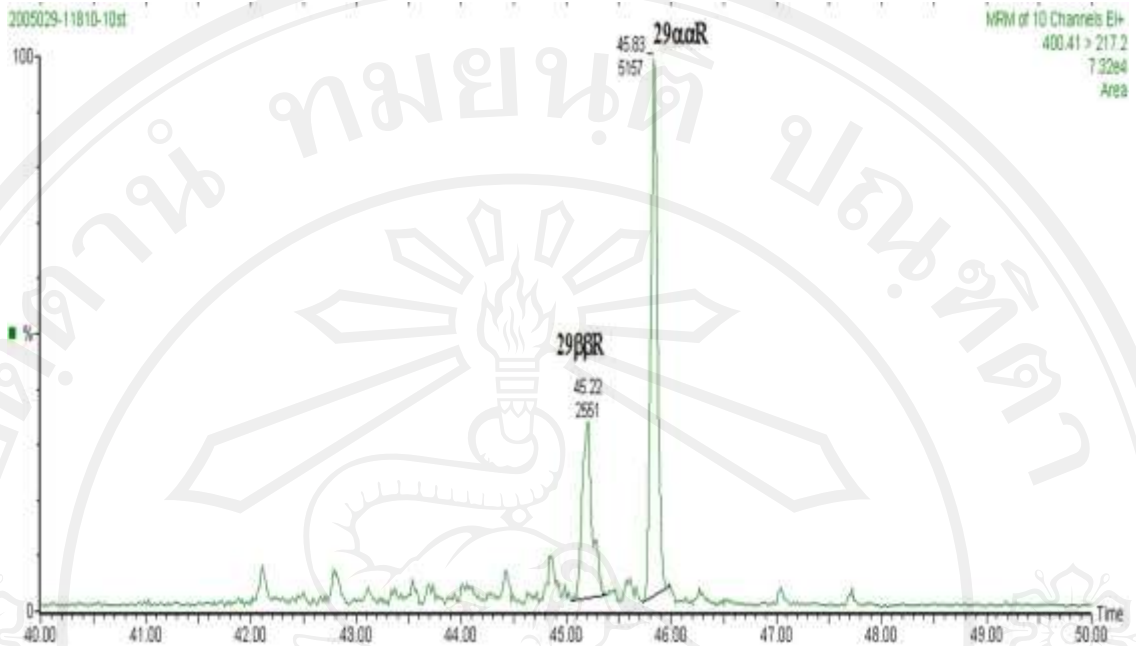
**Figure Ap-III.129:** 412→369 transition shows the distribution of bicadinanes in the sample 11823 of SP2 well.



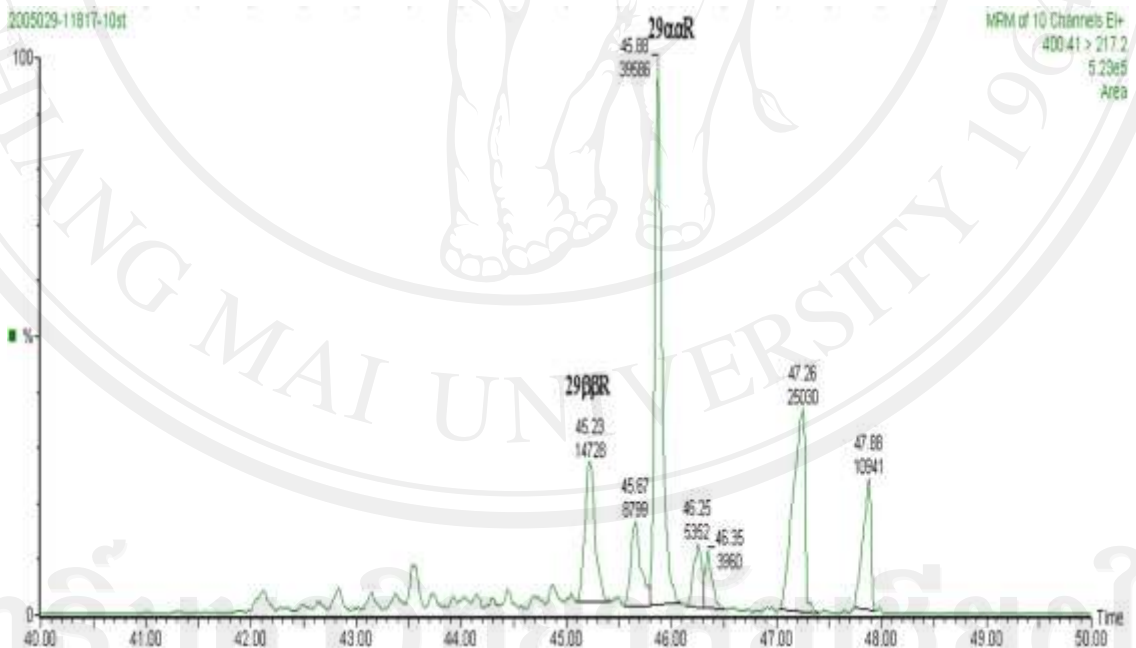
**Figure Ap-III.130:** 412→369 transition shows the distribution of bicadinanes in the sample 11829 of SP2 well.



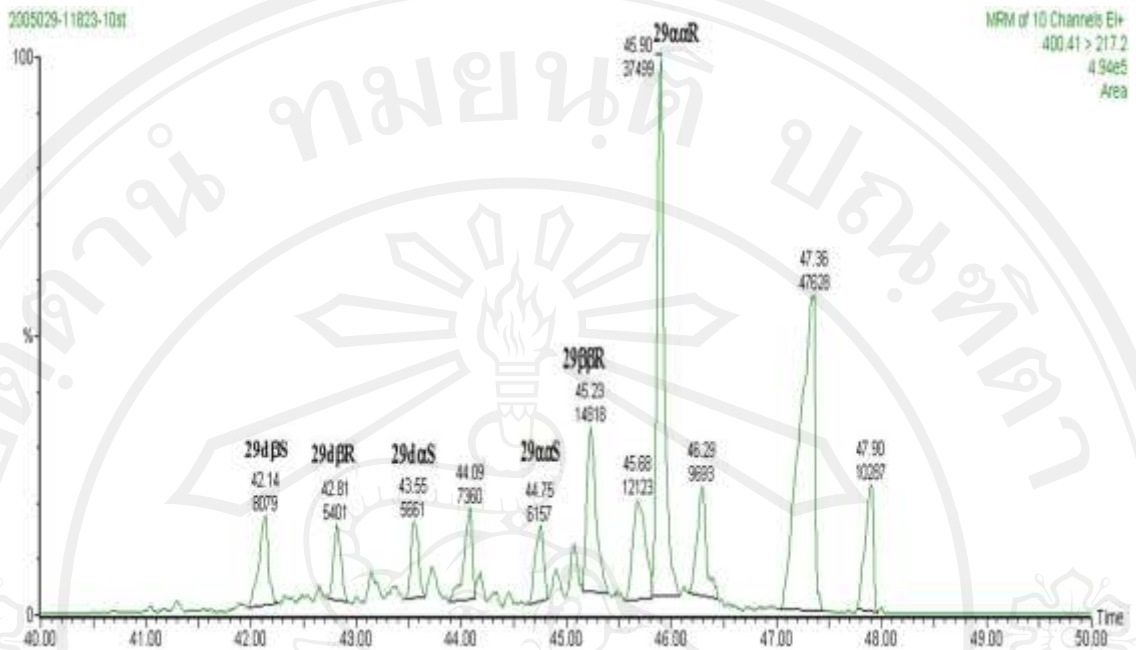
**Figure Ap-III.131:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11799 of SP2 well.



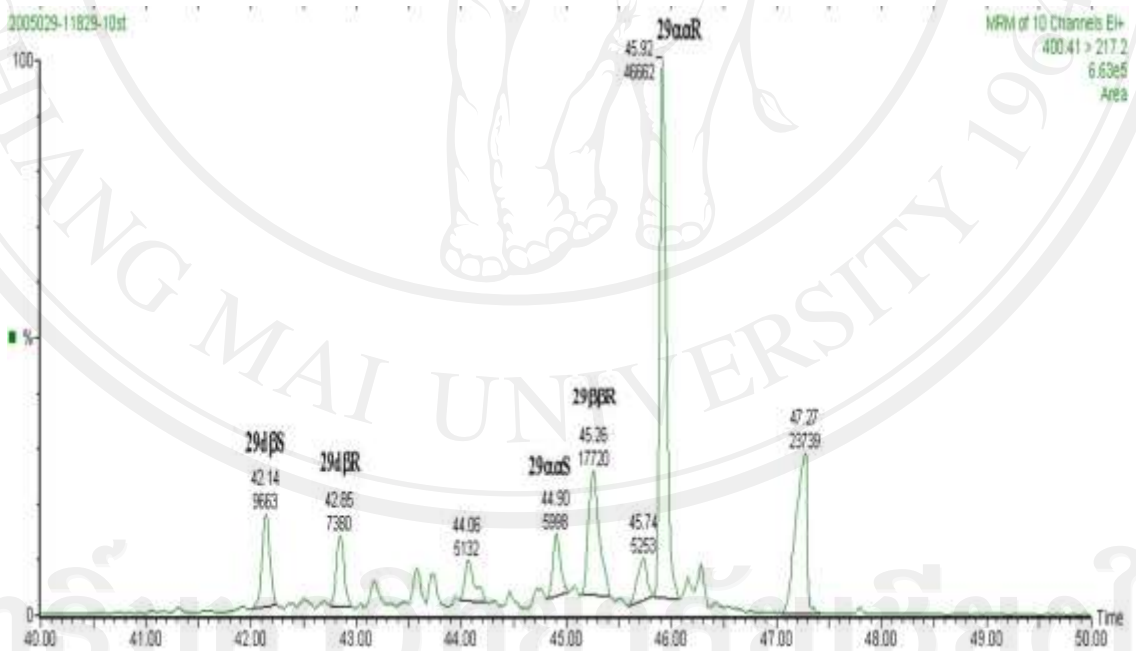
**Figure Ap-III.132:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11810 of SP2 well



**Figure Ap-III.133:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11817 of SP2 well



**Figure Ap-III.134:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11823 of SP2 well



**Figure Ap-III.135:** 400→217 transition showing the distribution of C<sub>29</sub> steranes in the sample 11829 of SP2 well



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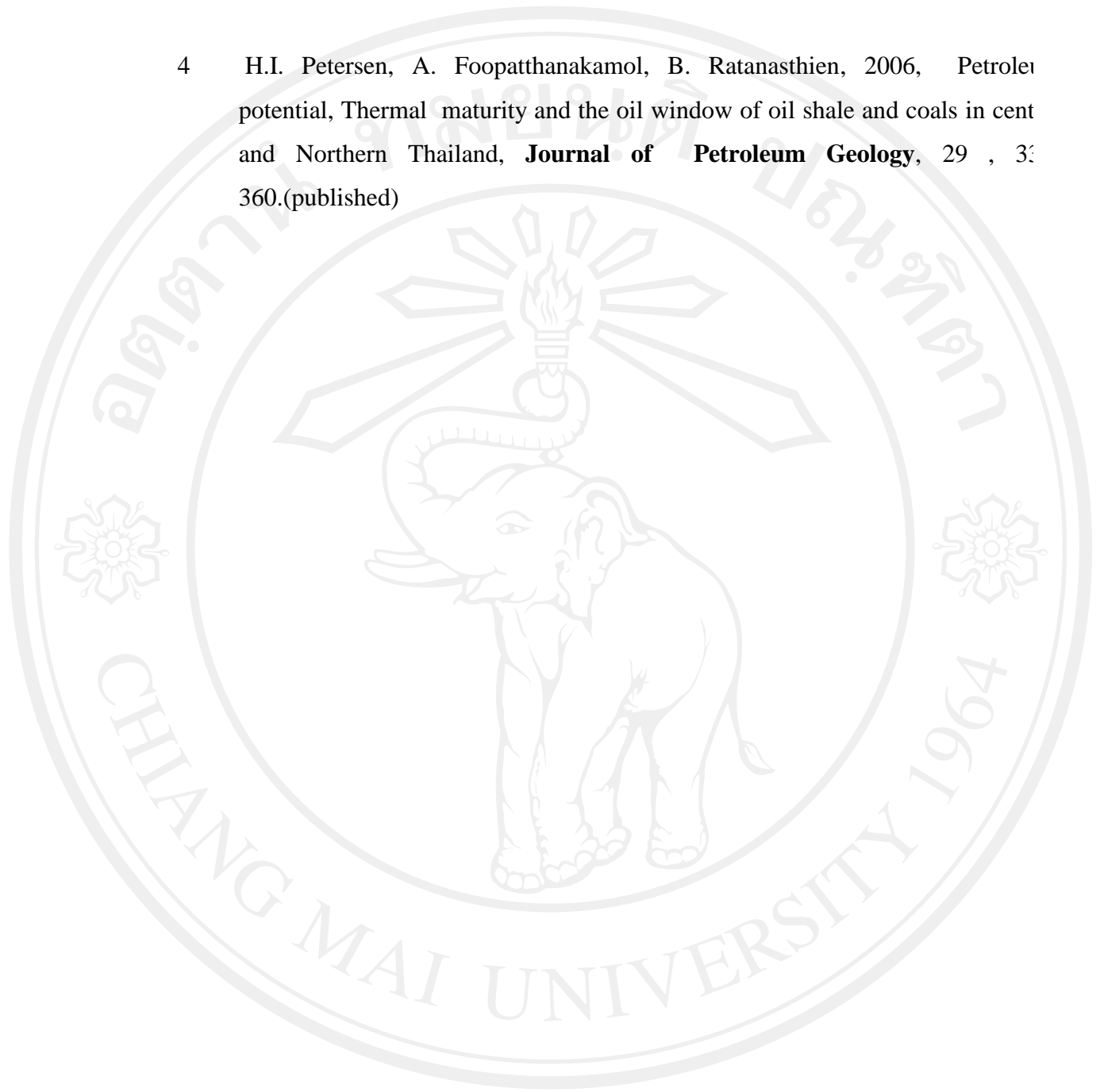
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### PUBLICATIONS:

- 1 A. Foopatthanakamol, B. Ratanasthien, H.I. Petersen, W. Uttamo and Wongpornchai, 2008, Composition and petroleum potential of lake facies in FA-MS-48-73 well, Mae Soon structure, Fang oilfield, Northern Thailand **Journal of Petroleum Geology**, 31, 317-325. (published)
- 2 H.I. Petersen, H.P. Nytoft, B. Ratanasthien and A.Foopatthanakamol 2007, Oils from Cenozoic rift-basins in Central and Northern Thailand: Source and Thermal Maturity, **Journal of Petroleum Geology**, 30 , 59-78.(published)
- 3 A. Foopatthanakamol\*, B. Ratanasthien, H.I. Petersen, W. Uttamo and Wongpornchai, April 2007, Characterization and Potential Source Rocks Fang Basin, Northern Thailand, **8<sup>th</sup> RGJ-Ph.D. Congress** (Oral Presentation Chonburi.

- 4 H.I. Petersen, A. Foopatthanakamol, B. Ratanasthien, 2006, Petroleum potential, Thermal maturity and the oil window of oil shale and coals in central and Northern Thailand, **Journal of Petroleum Geology**, 29 , 333-360.(published)



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