

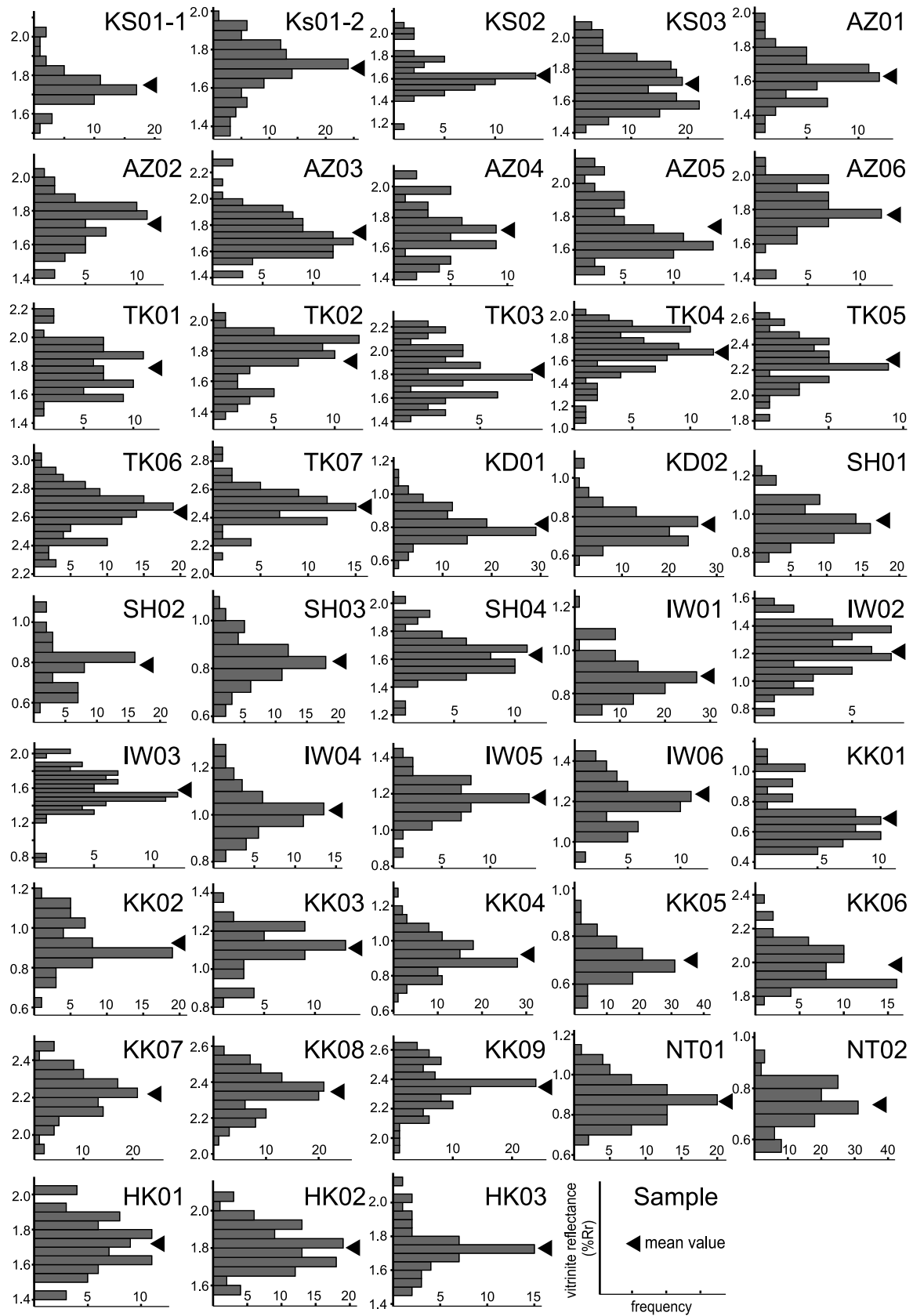
Appendix 1,

Sample name	Formation & Rock type		Sample locality (Lat., Long.)	Altitude (m)	Positon of locality (km)			Maturation		
					N-S direction*	Basin Width**	E-W direction***	Vitrinite Reflectance	Rock-Eval Analysis	
Northern marginal facies										
KS01-1	Mutsuo	pebbly mudstone	34° 22' 13"N, 135° 24' 26"E	198	0.17	9.0	246.7	○	○	
KS01-2	Mutsuo	coalified wood	34° 22' 13"N, 135° 24' 26"E	198	0.16	9.0	246.7	○		
KS02	Mutsuo	sandy siltstone	34° 22' 24"N, 135° 24' 56"E	248	0.09	9.0	247.5	○		
KS03	Mutsuo	siltstone	34° 22' 37"N, 135° 26' 02"E	245	0.02	8.8	249.1	○	○	
AZ01	Mutsuo	sandy siltstone	34° 20' 38"N, 135° 17' 48"E	110	0.62	8.4	236.6	○	○	
AZ02	Mutsuo	siltstone	34° 20' 59"N, 135° 18' 26"E	102	0.32	8.7	237.6	○		
AZ03	Mutsuo	sandy siltstone	34° 21' 17"N, 135° 19' 49"E	123	0.12	8.4	239.7	○	○	
AZ04	Mutsuo	siltstone	34° 21' 17"N, 135° 21' 40"E	121	0.44	8.8	242.5	○		
AZ05	Mutsuo	siltstone	34° 22' 21"N, 135° 22' 11"E	111	0.59	9.1	243.3	○		
AZ06	Mutsuo	siltstone	34° 21' 56"N, 135° 23' 38"E	183	0.37	9.1	245.5	○	○	
TK01	Mutsuo	sandy siltstone	34° 22' 51"N, 135° 26' 56"E	271	0.005	9.1	250.5	○		
TK02	Mutsuo	very fine sandstone	34° 22' 52"N, 135° 26' 58"E	268	0.00	9.1	250.6	○		
TK03	Mutsuo	sandy siltstone	34° 23' 00"N, 135° 27' 22"E	263	0.04	9.3	251.2	○		
TK04	Mutsuo	siltstone	34° 23' 14"N, 135° 27' 49"E	280	0.01	9.4	251.9	○	○	
TK05	Mutsuo	Conglomerate	34° 22' 29"N, 135° 31' 17"E	337	0.35	6.0	257.1	○		
TK06	Mutsuo	clay and siltstone	34° 23' 00"N, 135° 36' 07"E	324	0.10	4.9	264.5	○	○	
TK07	Mutsuo	siltstone	34° 22' 52"N, 135° 36' 22"E	430	0.86	5.2	264.9	○		
Main facies										
KD01	Kada	silty claystone	34° 15' 55"N, 135° 03' 42"E	0	>5.0	>6.3	215.1	○	○	
KD02	Kada	very fine sandstone	34° 15' 40"N, 135° 05' 07"E	5	>6.4	>7.1	217.3	○		
SH01	Shindachi	siltstone	34° 17' 37"N, 135° 12' 34"E	158	>4.8	>7.9	228.7	○		
SH02	Shindachi	siltstone	34° 16' 19"N, 135° 12' 47"E	61	>7.5	>8.2	229.0	○		
SH03	Shindachi	sandy siltstone	34° 16' 37"N, 135° 13' 58"E	66	>7.2	>7.9	230.8	○	○	
SH04	Shindachi	siltstone	34° 20' 58"N, 135° 22' 31"E	150	1.7	9.0	243.8	○	○	
IW01	Iwade	silty claystone	34° 17' 43"N, 135° 18' 14"E	169	7.2	8.8	237.3	○	○	
IW02	Iwade	silty claystone	34° 19' 30"N, 135° 22' 47"E	289	5.3	9.4	244.4	○		
IW03	Iwade	siltstone	34° 22' 02"N, 135° 25' 58"E	346	1.2	8.9	249.0	○		
IW04	Iwade	siltstone	34° 21' 16"N, 135° 26' 15"E	765	3.2	9.1	249.5	○		
IW05	Iwade	siltstone	34° 21' 31"N, 135° 27' 37"E	514	3.7	9.4	251.6	○		
IW06	Iwade	silty claystone	34° 21' 19"N, 135° 27' 41"E	572	4.1	9.4	251.6	○		
KK01	Kokawa	siltstone	34° 18' 06"N, 135° 24' 39"E	186	8.4	8.9	247.0	○	○	
KK02	Kokawa	very fine sandstone	34° 19' 29"N, 135° 25' 55"E	294	6.0	9.0	249.0	○		
KK03	Kokawa	silty sandstone	34° 20' 22"N, 135° 26' 32"E	630	5.1	9.1	249.9	○		
KK04	Kokawa	very fine sandstone	34° 19' 52"N, 135° 26' 42"E	648	6.2	9.2	250.2	○		
KK05	Kokawa	silty claystone	34° 18' 47"N, 135° 29' 23"E	166	8.5	9.0	254.2	○	○	
KK06	Kokawa	silty claystone	34° 21' 50"N, 135° 30' 51"E	406	1.7	6.4	256.5	○		
KK07	Kokawa	siltstone	34° 21' 43"N, 135° 36' 45"E	214	3.1	5.0	265.5	○		
KK08	Kokawa	sandy siltstone	34° 22' 04"N, 135° 38' 13"E	298	2.3	3.3	267.7	○		
KK09	Kokawa	siltstone	34° 21' 48"N, 135° 38' 34"E	268	2.5	3.0	268.2	○		
Southern facies										
NT01	Nate	silty sandstone	34° 17' 28"N, 135° 23' 41"E	125	9.0	9.1	245.6	○	○	
NT02	Nate	siltstone	34° 19' 05"N, 135° 30' 41"E	185	6.8	7.2	256.2	○	○	
Shikoku Island										
HK01	Hiketa	very fine sandstone	34° 08' 44"N, 133° 55' 42"E	291	—	—	111.7	○	○	
HK02	Hiketa	silty sandstone	34° 08' 52"N, 133° 56' 54"E	227	—	—	113.5	○	○	
HK03	Hiketa	sandy siltstone	34° 10' 59"N, 134° 11' 58"E	409	—	—	136.5	○	○	

Appendix 2,

Sample name	Formation	Vitrinite Rmax	Estimated Vitrinite Rm**	Altitude (m)	Positon of locality (km)		
					N-S direction***	Basin Width****	E-W direction*****
I-1	Kada	1.19	1.11	53	>0.6	>6.1	217.3
I-2	Kada	1.19	1.11	115	>3.7	>6.5	218.4
I-3	Shindachi	1.18	1.11	250	>2.6	>6.4	235.2
I-4	Iwade	1.17	1.10	190	5.5	8.7	237.4
I-5	Iwade	1.18	1.11	265	6.3	8.9	238.2
I-6	Iwade	1.35	1.23	325	4.6	9.0	243.3
I-7	Kokawa	0.88*	—	291	7.0	9.7	252.3
I-8	Kokawa	1.03	0.99	204	5.7	6.8	256.5
I-9	Kokawa	1.55	1.38	378	2.7	4.8	261.0
I-10	Mutsuo	3.03	2.49	380	0.7	5.1	264.8

Appendix 3



Appendix 4

Sample name	Vitrinite Rm (%)	Std	n	Pr (Kolmogorov-Smirnov test, %)	Rock-Eval <i>T</i> _{max} (°C)	Max. paleotemp. (°C) (A) (B)	
<i>Northern marginal facies</i>							
KS01-1	1.75	0.10	53	38.8	508	206	181
KS01-2	1.70	0.13	105	28.4	n.d.	203	178
KS02	1.63	0.16	57	10.5	n.d.	199	175
KS03	1.71	0.15	159	18.5	510	204	179
AZ01	1.63	0.13	58	82.1	514	199	175
AZ02	1.73	0.13	57	37.3	n.d.	205	180
AZ03	1.74	0.16	97	61.3	473	206	181
AZ04	1.71	0.16	55	90.3	n.d.	204	179
AZ05	1.73	0.16	75	29.2	n.d.	205	180
AZ06	1.80	0.13	57	95.1	482	209	183
TK01	1.79	0.16	76	67.8	n.d.	209	182
TK02	1.74	0.15	63	11.8	n.d.	206	180
TK03	1.82	0.21	54	92.9	n.d.	210	184
TK04	1.67	0.20	81	40.2	482	201	177
TK05	2.27	0.18	101	47.4	n.d.	233	202
TK06	2.64	0.16	111	49.4	548	249	214
TK07	2.48	0.13	73	79.4	n.d.	242	209
<i>Main facies</i>							
KD01	0.82	0.10	105	57.4	440	127	119
KD02	0.76	0.09	102	60.7	n.d.	119	113
SH01	0.96	0.10	68	54.6	n.d.	144	132
SH02	0.79	0.11	52	62.0	n.d.	123	116
SH03	0.83	0.10	64	38.6	446	129	120
SH04	1.63	0.14	66	72.2	499	199	175
IW01	0.88	0.10	100	36.6	458	135	125
IW02	1.21	0.18	53	85.3	n.d.	172	151
IW03	1.58	0.22	83	55.4	n.d.	196	172
IW04	1.02	0.10	101	29.6	n.d.	150	137
IW05	1.18	0.10	55	93.9	n.d.	165	149
IW06	1.19	0.11	50	88.8	n.d.	166	150
KK01	0.69	0.17	62	25.7	434	109	106
KK02	0.92	0.12	64	27.8	n.d.	139	129
KK03	1.11	0.12	50	27.3	n.d.	159	144
KK04	0.92	0.11	111	29.4	n.d.	139	129
KK05	0.70	0.08	102	36.6	435	111	107
KK06	1.99	0.12	68	69.7	n.d.	220	191
KK07	2.22	0.12	100	92.8	n.d.	231	200
KK08	2.35	0.11	100	54.2	n.d.	237	204
KK09	2.35	0.15	100	45.7	n.d.	237	204
<i>Southern facies</i>							
NT01	0.87	0.10	87	78.3	437	134	124
NT02	0.74	0.08	113	66.2	432	117	111
<i>Shikoku Island</i>							
HK01	1.72	0.14	73	89.3	489	204	179
HK02	1.80	0.11	100	85.9	508	209	183
HK03	1.73	0.13	51	34.7	476	205	180