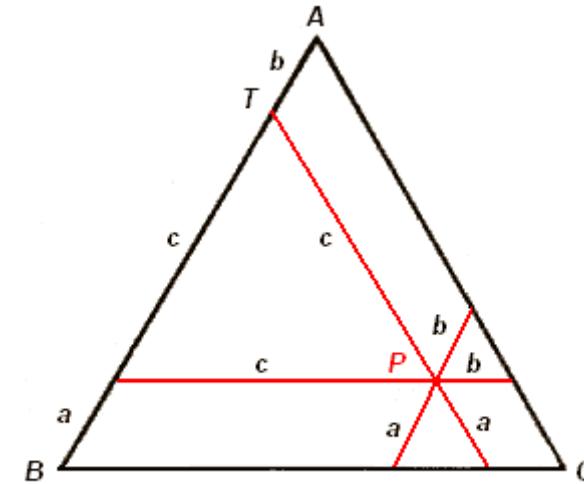
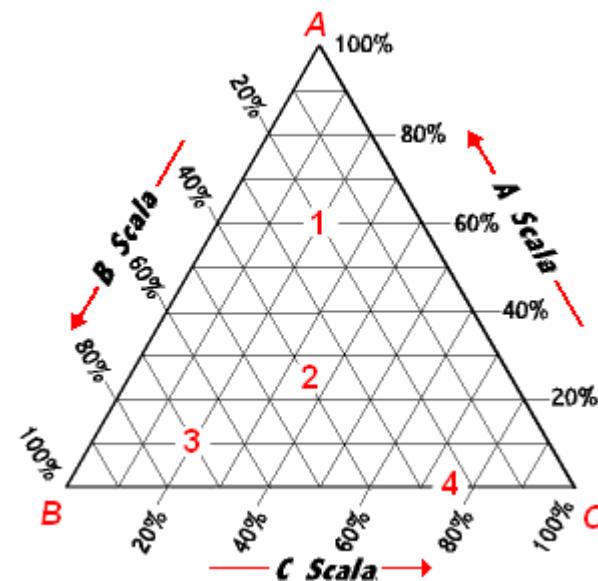


Diagrammi triangolari



punto	<i>A</i>	<i>B</i>	<i>C</i>	totale
1	60%	20%	20%	100
2	25%	40%	35%	100
3	10%	70%	20%	100
4	0%	25%	75%	100



Explanation

WBP within-plate basalts
IAT island-arc tholeiites
CAB calc-alkaline basalts
MORB mid-ocean ridge basalts
OIT ocean island tholeiite
OIA ocean island alkaline basalt

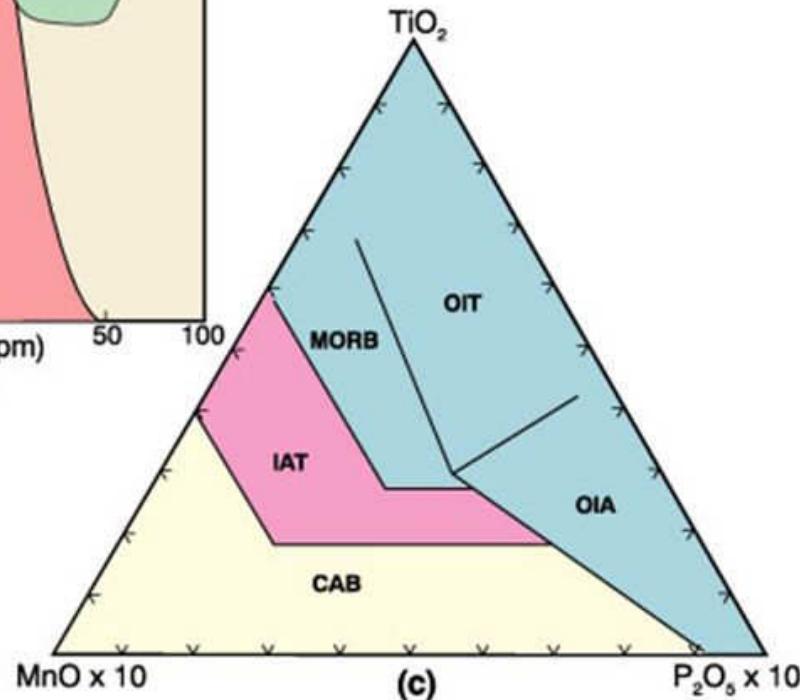
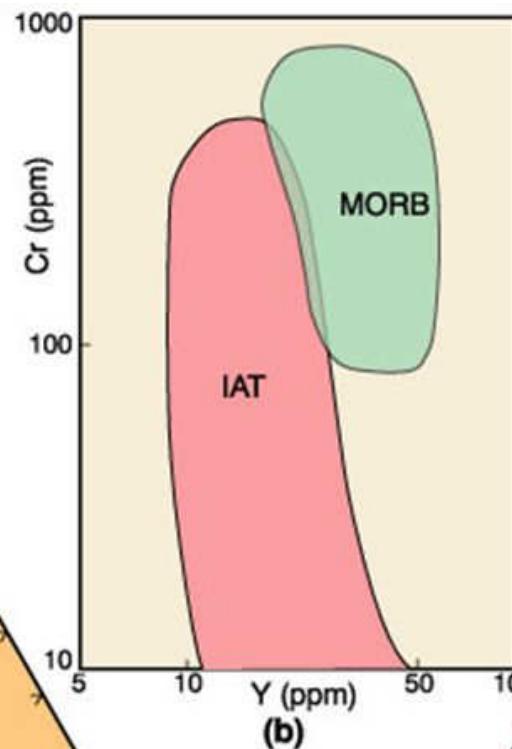
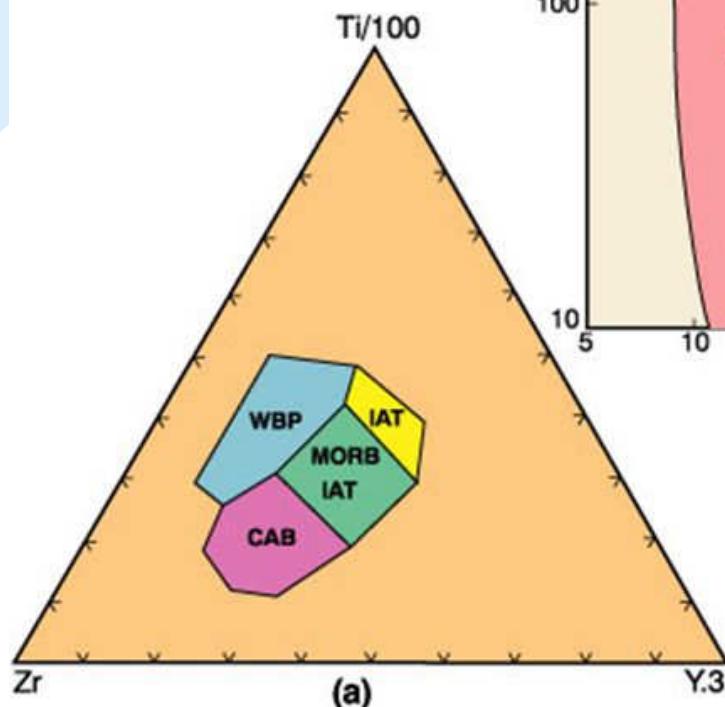
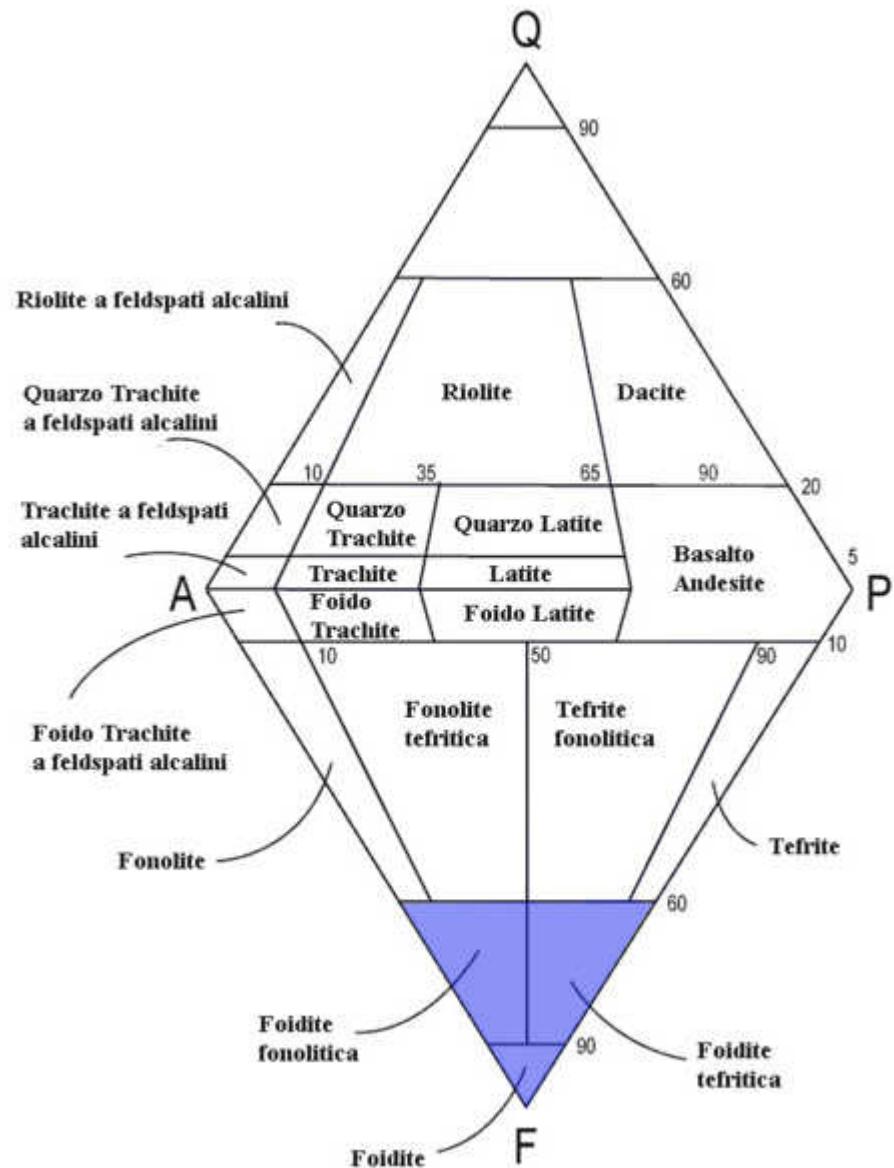
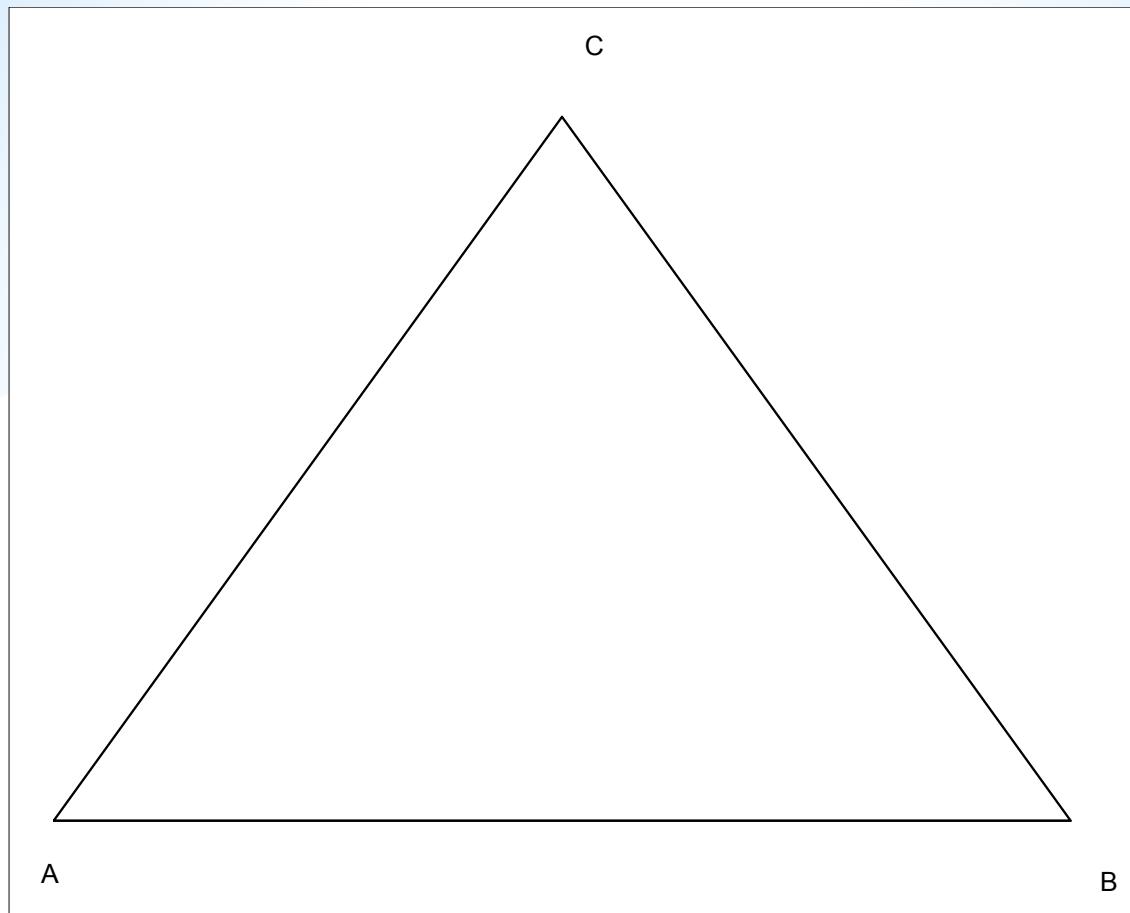


Figure 9-8. (a) after Pearce and Cann (1973), Earth Planet. Sci. Lett., **19**, 290-300. (b) after Pearce (1982) in Thorpe (ed.), Andesites: Orogenic andesites and related rocks. Wiley, Chichester, pp. 525-548, Coish et al. (1986), Amer. J. Sci., **286**, 1-28. (c) after Mullen (1983), Earth Planet. Sci. Lett., **62**, 53-62.

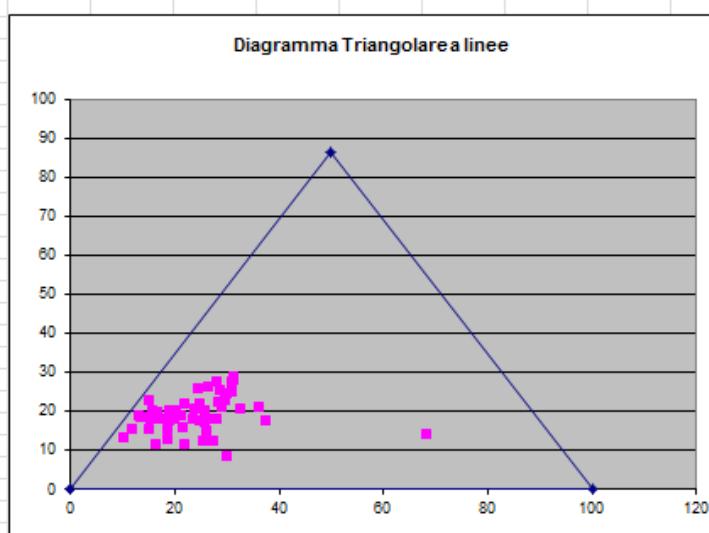


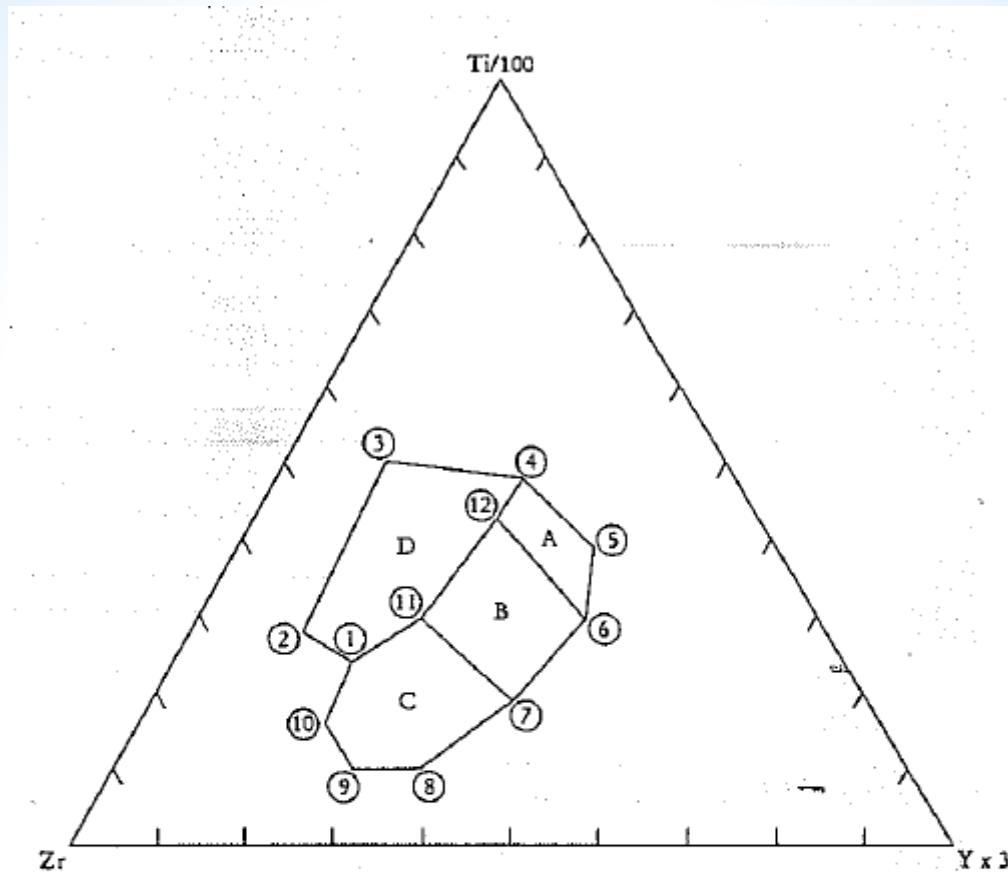


$$X = B + C / 2$$

$$Y = C * 0,866$$

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	A	B	C	A+B+C		Tabella Grafico						Valori ripercantati									
2	69,81	8,36	21,83	100		A	B	C	X	Y		A'	B'	C'	A+B+C'	X	Y				
3	72,44	9,98	17,6	100,02		100	0	0	0	0		69,81	8,36	21,83	100	19,28	18,90				
4	69,27	8,78	21,85	99,9		0	100	0	100	0		72,43	9,98	17,60	100	18,78	15,24				
5	64,43	11,95	23,62	100		0	0	100	50	86,6		69,34	8,79	21,87	100	19,72	18,94				
6	72,25	7,17	20,56	99,98		100	0	0	0	0		64,43	11,95	23,62	100	23,76	20,45				
7	69,47	9,68	20,84	99,99								72,26	7,17	20,56	100	17,45	17,81				
8	69,66	7,38	23,17	100,21								69,48	9,68	20,84	100	20,10	18,05				
9	67,7	10,43	21,52	99,65								69,51	7,36	23,12	100	18,93	20,02				
10	67,98	8,88	23,12	99,98								67,94	10,47	21,60	100	21,26	18,70				
11	74,17	5,19	20,62	99,98								67,99	8,88	23,12	100	20,44	20,03				
12	65,27	9,57	25,01	99,85								74,18	5,19	20,62	100	15,50	17,86				
13	71,56	5,53	22,75	99,84								65,37	9,58	25,05	100	22,11	21,69				
14	71,96	2,2	26,01	100,17								71,67	5,54	22,79	100	16,93	19,73				
15	73,32	4,77	21,98	100,07								71,84	2,20	25,97	100	15,18	22,49				
16	74,94	3,94	21,21	100,09								73,27	4,77	21,96	100	15,75	19,02				
17	81,92	2,79	15,01	99,72								74,87	3,94	21,13	100	14,53	18,35				
18	78,95	3,13	17,74	99,82								82,15	2,80	15,05	100	10,32	13,04				
19	76,05	2,43	21,73	100,21								79,09	3,14	17,77	100	12,02	15,39				
20	72,63	4,41	22,97	100,01								75,89	2,42	21,68	100	13,27	18,78				
21	23,4	60,03	15,89	99,32								72,62	4,41	22,97	100	15,89	19,89				
22	61,4	17,92	20,74	100,06								23,56	60,44	16,00	100	68,44	13,85				
23	64,9	25,33	9,64	99,87								61,36	17,91	20,73	100	28,27	17,95				
24	71,67	15,33	13,19	100,19								64,98	25,36	9,65	100	30,19	8,36				
25	65,23	17,62	17,23	100,08								71,53	15,30	13,16	100	21,88	11,40				
26	56,83	16,6	25,92	99,35								65,18	17,61	17,22	100	26,21	14,91				
27	55,12	20,85	23,64	99,61								57,20	16,71	26,09	100	29,75	22,59				
28	62,33	14,14	23,18	99,65								55,34	20,93	23,73	100	32,80	20,55				
29	69,25	12,74	18	99,99								62,55	14,19	23,26	100	25,82	20,14				
30	65,62	13,46	20,26	99,34								69,26	12,74	18,00	100	21,74	15,59				
31	55,48	12,19	31,33	99								66,06	13,55	20,39	100	23,75	17,66				
32	50,31	23,56	23,79	98,26								56,04	12,31	31,65	100	28,14	27,41				
33	58,56	15,65	25,37	99,58								51,81	23,98	24,21	100	36,08	20,97				
34	51,72	14,89	33	99,61								58,81	15,72	25,48	100	28,45	22,06				
35	58,42	16,92	24,16	99,5								51,92	14,95	33,13	100	31,51	28,69				
36	73,96	11,59	14,49	100,04								58,71	17,01	24,28	100	29,15	21,03				
37	54,15	13,62	27,69	95,46								73,93	11,59	14,48	100	18,83	12,54				
38	54,14	16,13	29,67	99,94								56,73	14,27	29,01	100	28,77	25,12				
39	57,88	11,12	29,87	98,87								54,17	16,14	29,69	100	30,98	25,71				
40	52,78	15,32	31,57	99,67								58,54	11,25	30,21	100	26,35	26,16				
41	52,35	15,2	32,23	99,78								52,95	15,37	31,67	100	31,21	27,43				





The Ti-Zr-Y discrimination diagram for basalts (after Pearce and Cann, 1973). A is the field of island-arc tholeiites, C the field of calc-alkali basalts, D is the field of within-plate basalts and B is the field of MORB, island-arc tholeiites and calc-alkali basalts. Rocks which plot in field B give an ambiguous result but can be separated by plotting on a Ti-Zr diagram (Figure 5.2) or if unaltered on a Ti-Zr-Sr diagram (Figure 5.3). The plotting coordinates, extracted from Pearce and Cann (1973 — Figure 3) are:

Point	Ti/100	Zr	Y × 3	Point	Ti/100	Zr	Y × 3
1	24	55.5	20.5	7	19	40	41
2	28	59	13	8	10	55	35
3	50	38.5	11.5	9	10	62.5	27.5
4	48	24	28	10	16	63	21
5	39	20.5	40.5	11	29.5	45	25.5
6	30	26	44	12	42.5	30	37.5