

Manuscript analysis

A literary analyst has been studying ancient manuscripts and as part of her research has recorded the proportions of three types A, B, C of link words in each of 33 manuscripts, with results as shown in the table below. On the basis of a plot of B against A she believes that, because of the apparent separation of the data points into two groups (those manuscripts (1 – 15) with A values ≤ 0.41 and the others (16-33), she may have identified two different authors. After further plotting of C against A and of C against B she is even more convinced of her finding.

She asks you, as a compositional data analyst, how she may confirm her finding.

Manuscript	A	B	C
1	0.25	0.11	0.64
2	0.28	0.13	0.59
3	0.39	0.17	0.44
4	0.31	0.13	0.56
5	0.33	0.16	0.51
6	0.36	0.20	0.44
7	0.36	0.17	0.47
8	0.38	0.21	0.41
9	0.38	0.37	0.25
10	0.39	0.15	0.46
11	0.39	0.19	0.42
12	0.38	0.25	0.37
13	0.38	0.29	0.33
14	0.40	0.39	0.21
15	0.41	0.51	0.08
16	0.43	0.29	0.28
17	0.43	0.33	0.24
18	0.46	0.26	0.28
19	0.47	0.17	0.36
20	0.47	0.34	0.19
21	0.48	0.20	0.32
22	0.48	0.24	0.28
23	0.50	0.31	0.19
24	0.51	0.19	0.30
25	0.51	0.23	0.26
26	0.52	0.27	0.21
27	0.53	0.21	0.26
28	0.55	0.29	0.16
29	0.56	0.24	0.20
30	0.56	0.22	0.22
31	0.54	0.31	0.15
32	0.57	0.30	0.13
33	0.60	0.20	0.20
