

# Diagnostic Model Project

## Data Set

Table 1: Benign Tumor Data					
Case #	Size (mm <sup>3</sup> )	Stiffness (Pa)	Shape Index	Margins Index	Calcifications Present
1	91	82	14	15	No
2	92	13	3	11	No
3	55	28	12	11	No
4	97	96	1	2	No
5	98	16	8	10	Yes
6	49	96	7	13	No
7	92	43	11	15	No
8	96	80	2	10	No
9	94	85	2	4	No
10	76	68	3	5	No
11	40	75	7	8	Yes
12	83	10	7	14	No
13	32	70	8	15	No
14	39	44	10	15	No
15	80	77	4	11	No
16	49	19	5	11	No
17	65	45	4	8	No
18	76	71	11	13	No
19	68	28	6	12	No
20	50	12	7	9	No
21	35	96	7	12	No
22	23	59	5	12	No
23	26	81	5	6	Yes
24	70	51	6	10	Yes
25	96	90	3	12	No

Table 2: Malignant Tumor Data					
Case #	Size (mm <sup>3</sup> )	Stiffness (Pa)	Shape Index	Margins Index	Calcifications Present
1	14	55	11	9	Yes
2	26	85	4	2	No
3	25	82	10	7	Yes
4	29	92	12	6	Yes
5	13	94	10	7	Yes
6	9	46	14	13	Yes
7	15	55	10	9	Yes
8	8	41	14	4	Yes
9	5	42	5	2	Yes
10	14	37	15	14	No
11	6	58	4	2	Yes
12	2	83	2	1	Yes
13	19	75	9	7	Yes
14	19	69	3	4	Yes
15	9	79	11	2	Yes
16	20	85	9	8	Yes
17	12	44	13	8	Yes
18	3	81	12	8	Yes
19	20	70	6	3	Yes
20	3	89	9	4	Yes
21	10	53	11	6	No
22	15	73	12	6	Yes
23	18	100	14	11	Yes
24	13	49	7	1	Yes
25	11	59	5	3	Yes

Table 3: Tabulated Calcification Data			
Benign w/ Calcifications	Benign w/o Calcifications	Malignant w/ Calcifications	Malignant w/o Calcifications
4	21	22	3

Table 4: Model Testing Data						
Case #	Size (mm <sup>3</sup> )	Stiffness (Pa)	Shape Index	Margins Index	Calcifications Present	Tumor Outcome
1	84	44	2	15	No	Benign
2	6	17	5	4	Yes	Benign
3	22	38	5	10	Yes	Benign
4	2	45	13	3	Yes	Malignant
5	4	14	8	7	Yes	Malignant
6	31	94	5	5	No	Malignant

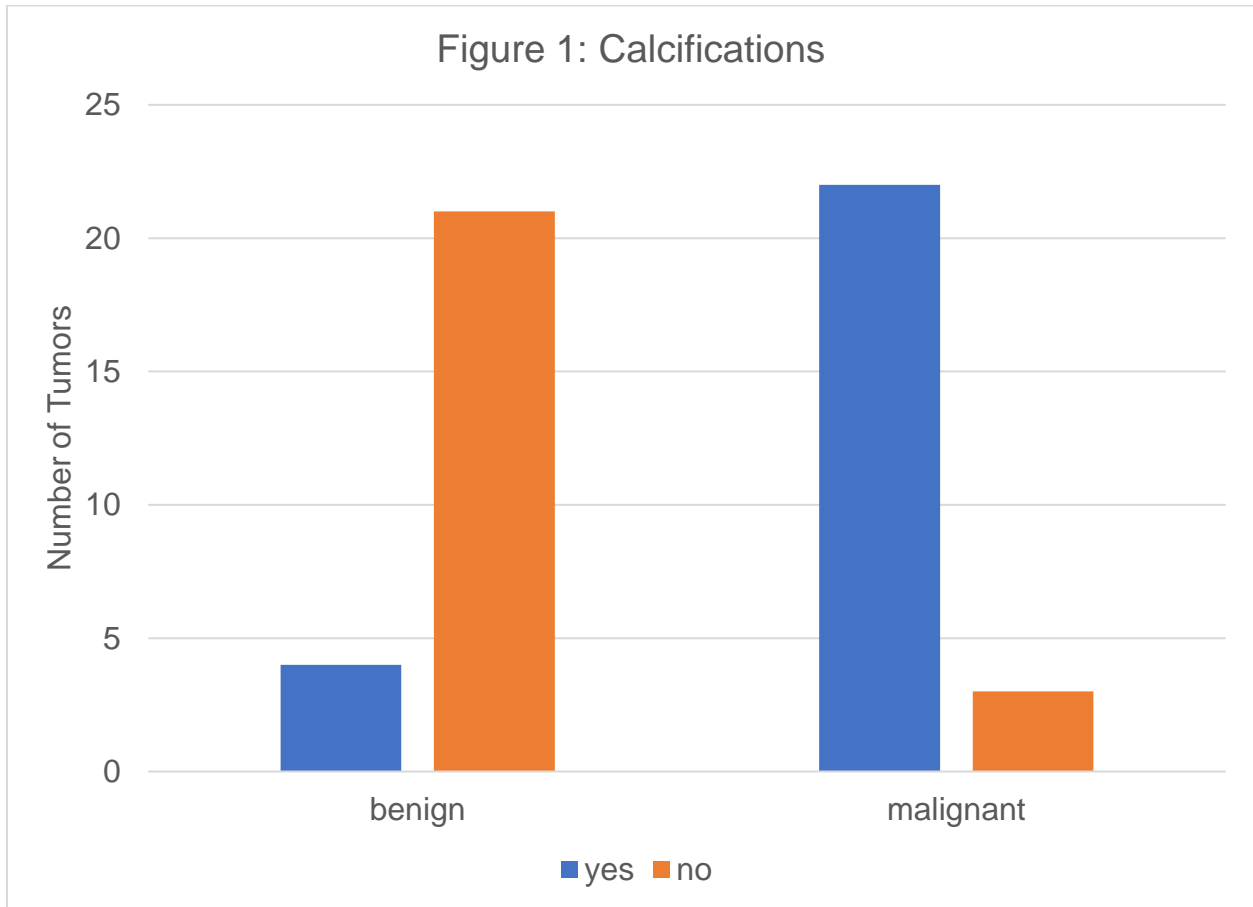


Figure 2: Margin vs Stiffness

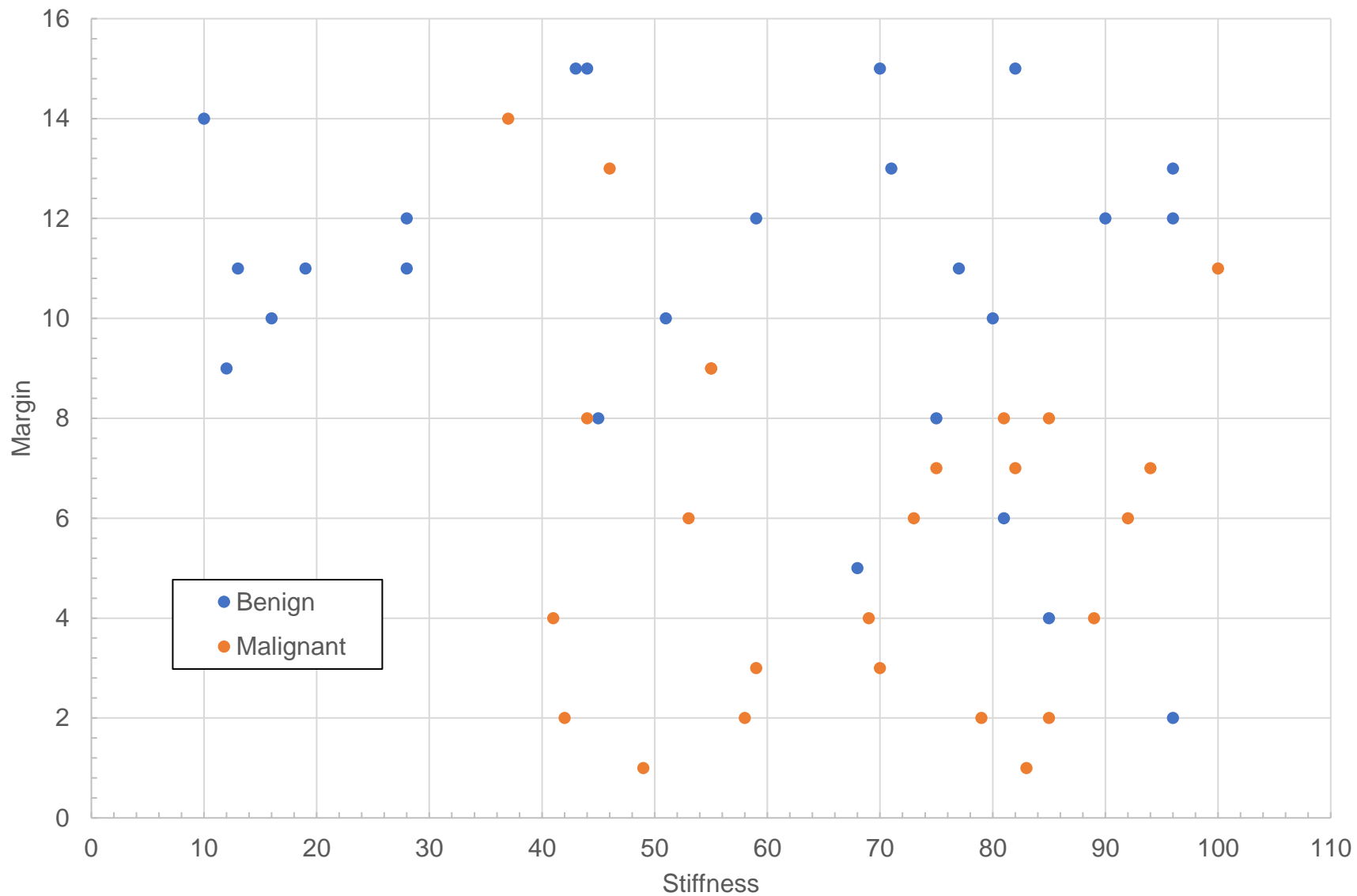


Figure 3: Margin vs Size

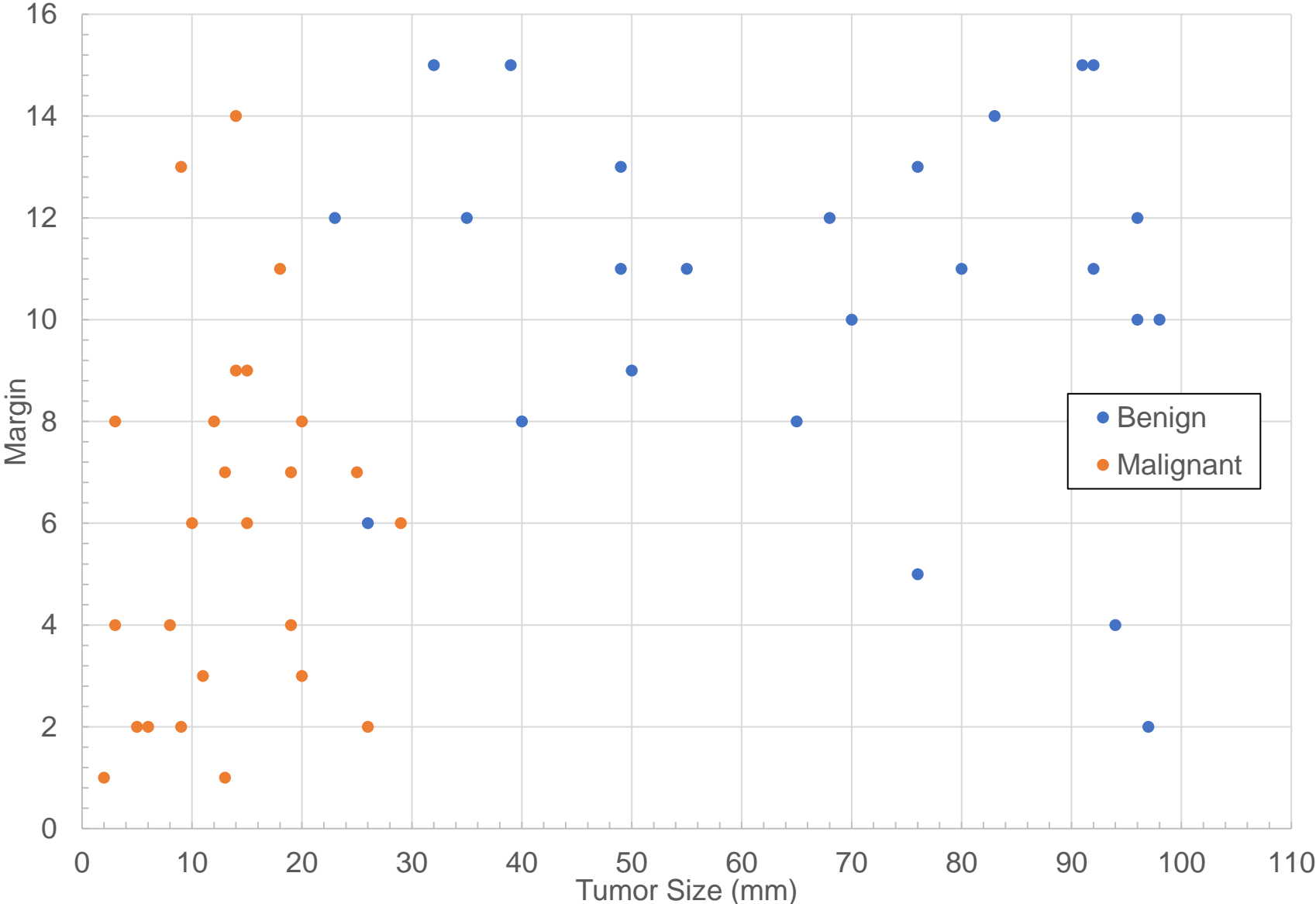


Figure 4: Shape vs Margin

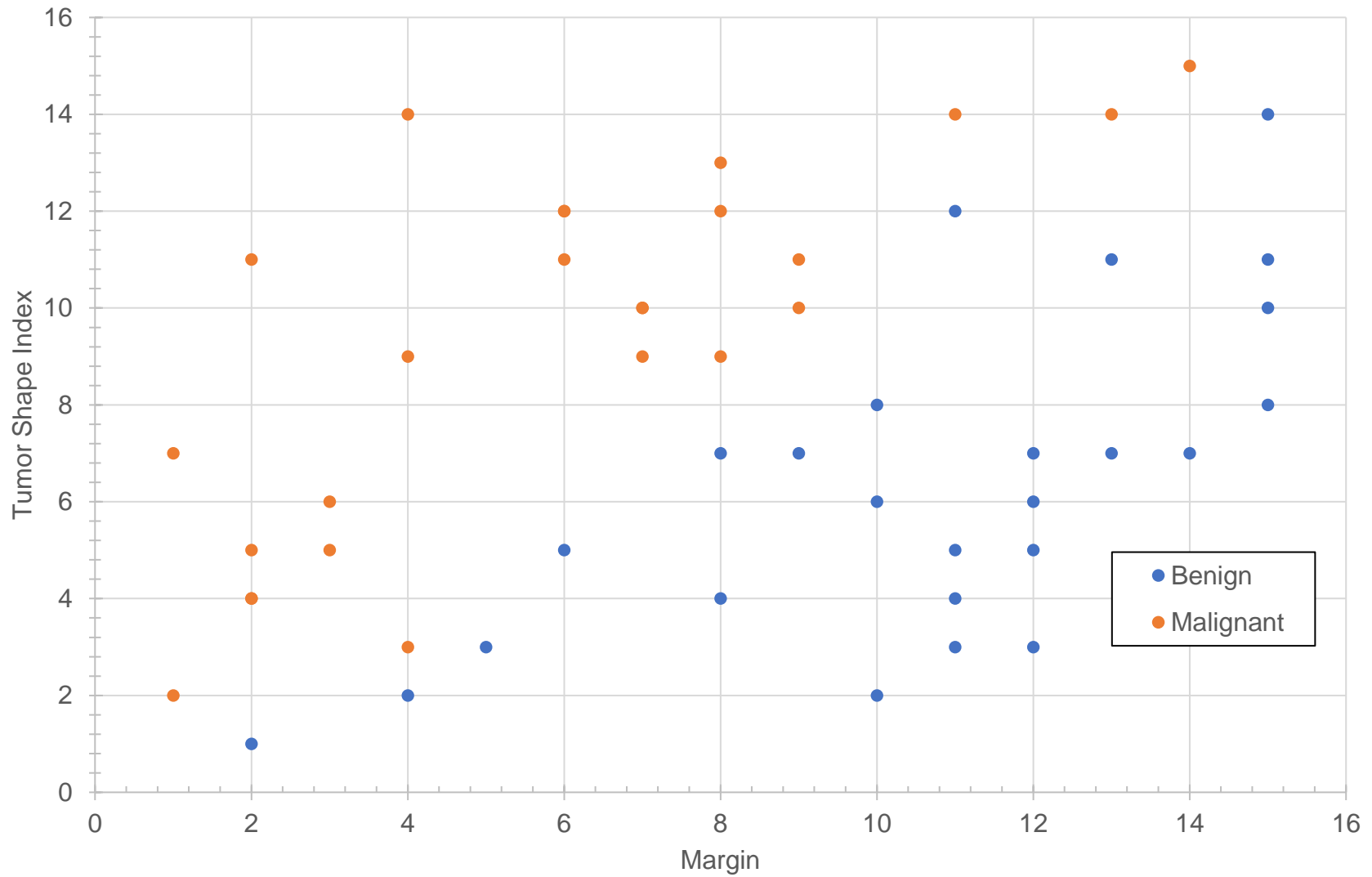


Figure 5: Size vs Shape

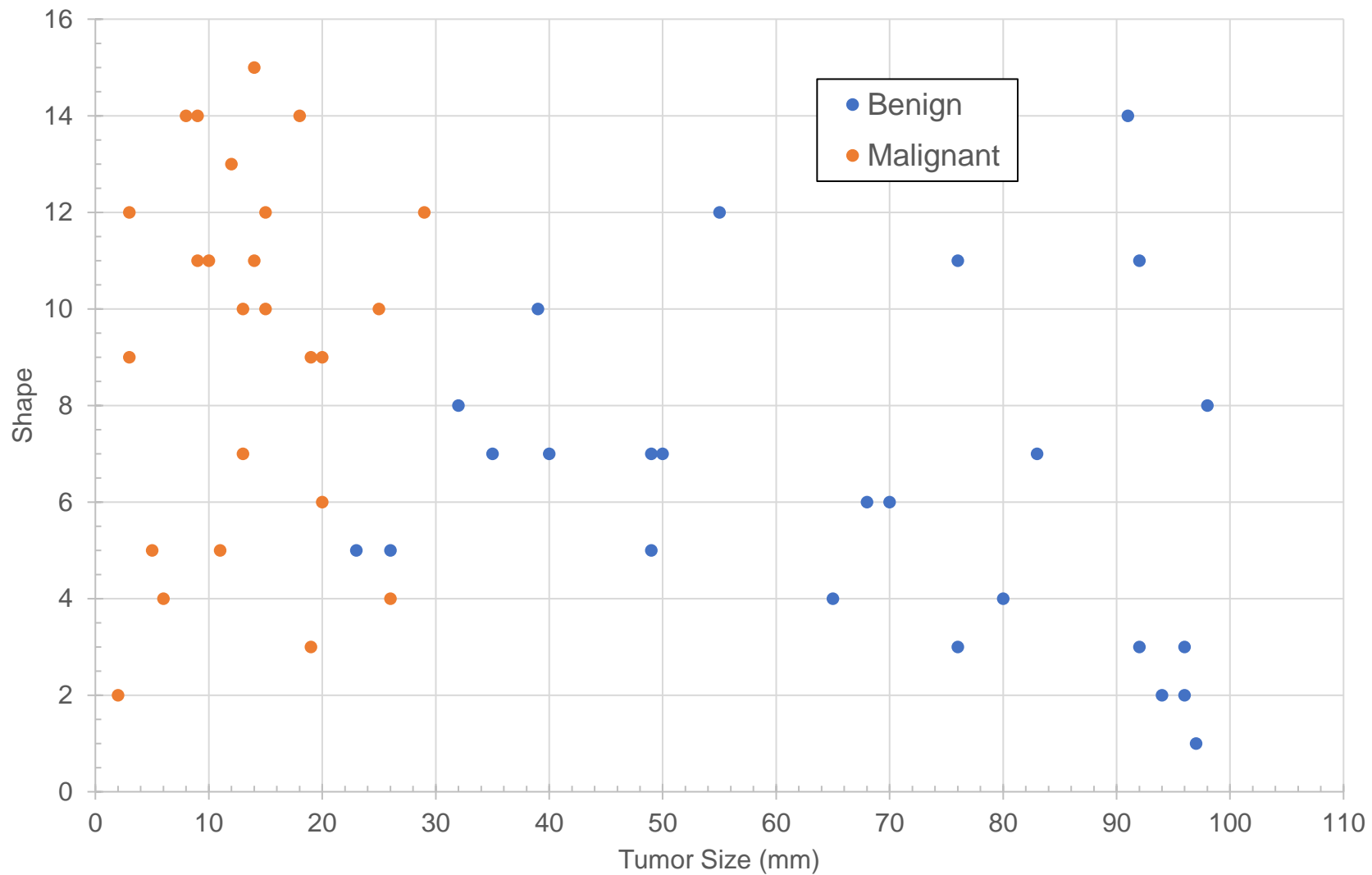


Figure 6: Stiffness vs Size

