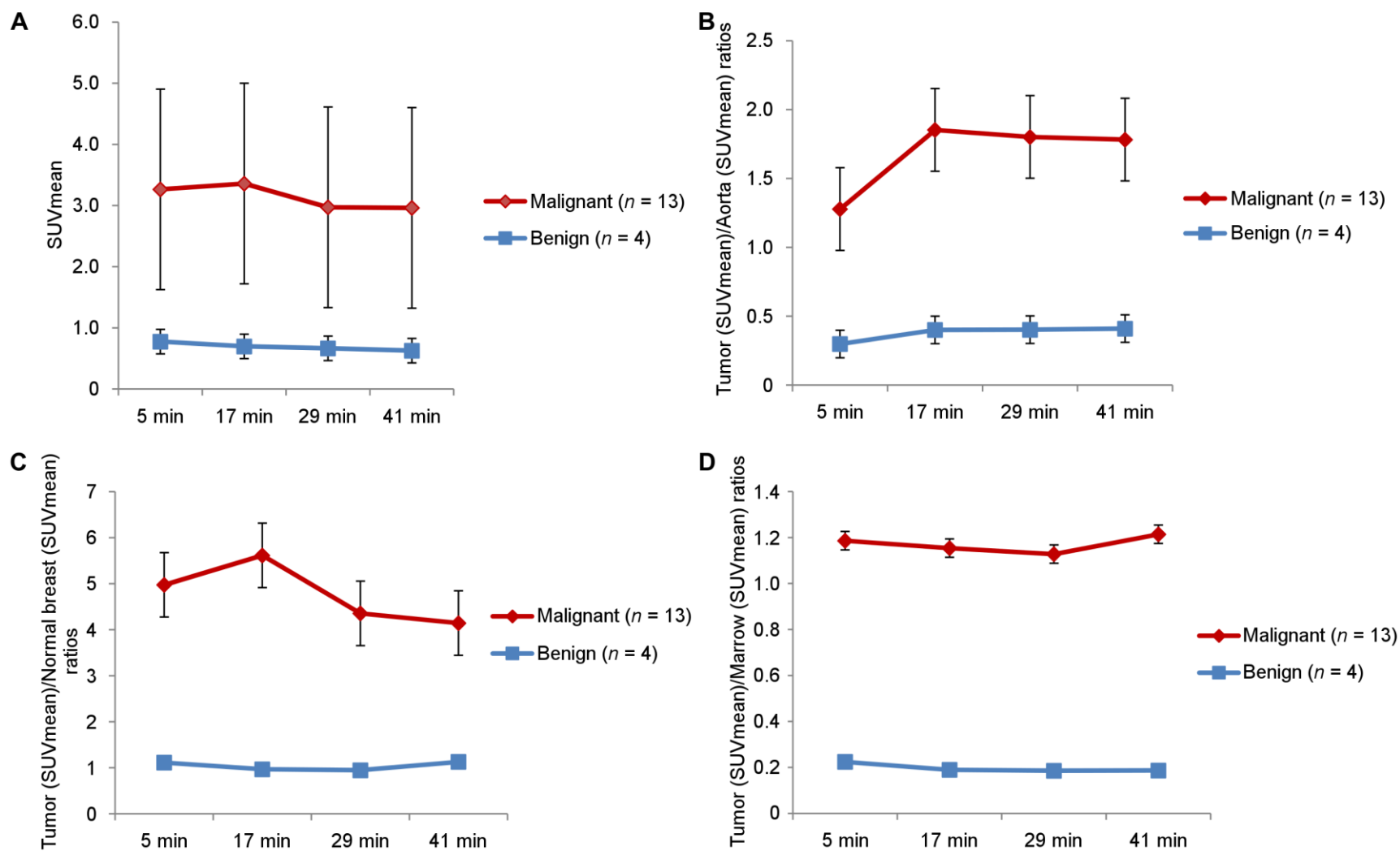
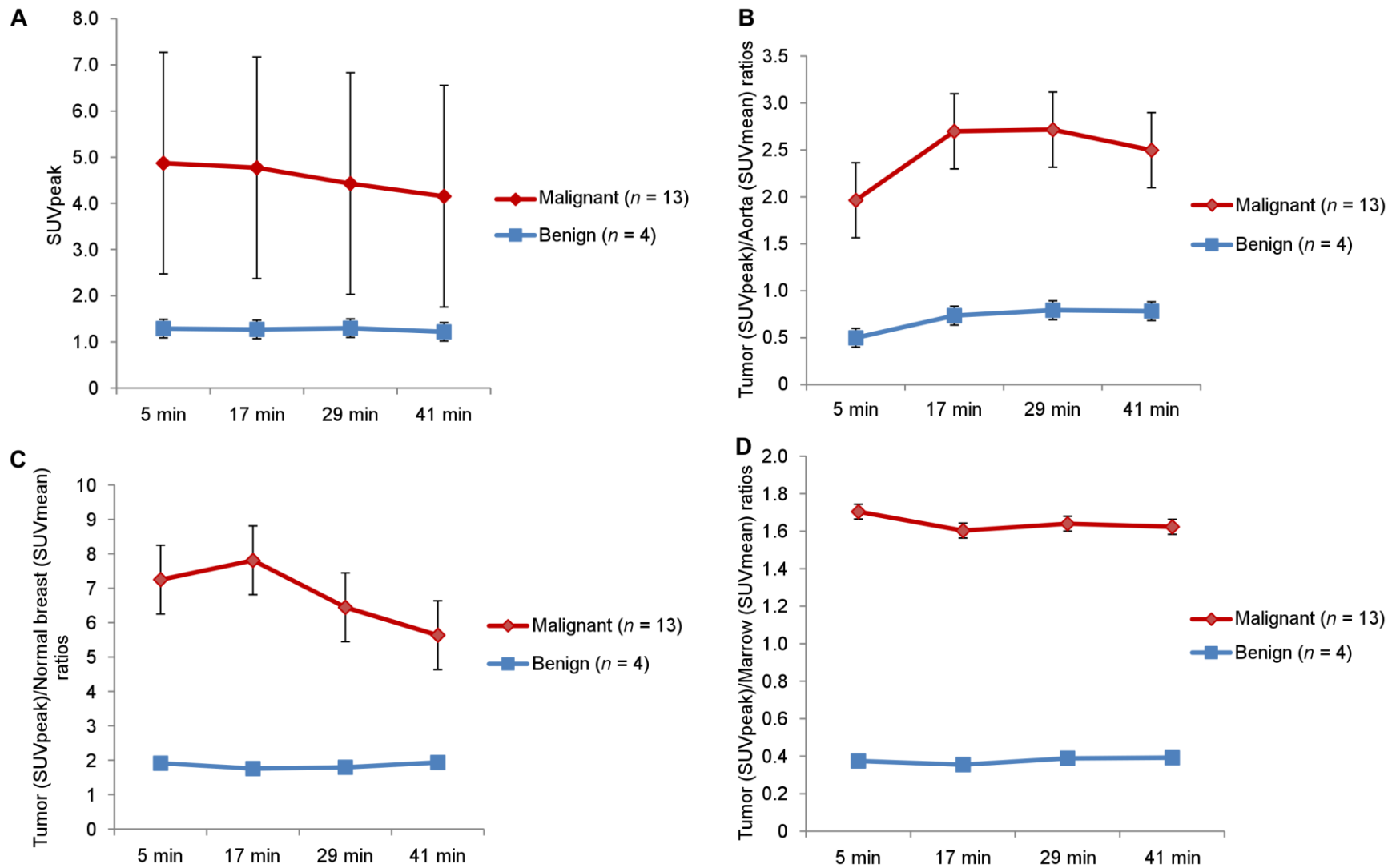


## SUPPLEMENTAL DATA



**Supplemental Figure 1.** Using tumor SUVmean to background SUVmean; Fluciclovine uptake in breast tumors [A]; Tumor to aorta ratios ( $p=0.002$ ) [B]; Tumor to normal breast ratios ( $p=0.002$ ) [C] and Tumor to marrow ratios ( $p<0.0001$ ) [D] in malignant compared to benign breast tumors



**Supplemental Figure 2.** Using tumor SUVmean to background SUVmean; Fluciclovine uptake in breast tumors [A]; Tumor to aorta ratios ( $p=0.0007$ ) [B]; Tumor to normal breast ratios ( $p=0.002$ ) [C] and Tumor to marrow ratios ( $p<0.0001$ ) [D] in malignant compared to benign breast tumors

**Supplemental Table 1: Demographics, histologic and immunohistochemical characteristics of breast tumors in 12 patients**

Subject ID	Age (yrs)	Histologic diagnosis	Ki-67 (%)	Fluciclovine uptake (SUVmean)				Fluciclovine uptake (SUVpeak)			
				5-10mins	17-20mins	29-32mins	41-44mins	5-10mins	17-20mins	29-32mins	41-44mins
1	63	IDC grade 2; ER+/PR+/HER2-	High (21)	3.2	3.1	3	2.3	4.0	3.7	3.5	1.7
		NA*	NA	0.7	0.8	0.9	0.8	1	1.0	1.2	1
2	50	Ductal hyperplasia and columnar cells with micro-calcifications	NA	1.1	0.8	0.7	0.7	1.5	1.3	1.3	1.1
3	67	IDC grade 1; ER+/PR+/HER2-	High (29)	2.9	5.0	3.7	3.4	6.3	4.8	3.8	3.3
4	77	IDC grade 2; ER+/PR-/HER2+	Intermediate (11)	2.1	2.6	2.7	2.7	2.3	2.8	2.9	3.1
		Fibroadipose tissue	NA	0.5	0.5	0.3	0.3	1.0	1.1	1.2	1.3
5	60	ILC grade 2; ER+/PR+/HER2-	High (45)	2.3	2.1	1.9	1.7	2.6	2.5	2.5	2.5
		IDC grade 3; ER+/PR-/HER2-	High (97)	3.9	3.7	3.3	2.9	6.0	6.4	5.8	5.0
6	54	IMC; ER-/PR-/HER2-	High (62)	1.3	1.3	1.2	1.3	6.8	6.7	6.7	6.8
		Fibrocystic change, apocrine metaplasia and focal ductal hyperplasia	NA	0.8	0.7	0.7	0.8	1.7	1.6	1.5	1.
7	60	IDC grade 3; ER+/PR-/HER2-	High (95)	4.7	3.7	3.1	2.7	6.1	4.9	4.2	3.8
8	89	IDC grade 3; ER+/PR+/HER2-	High (40)	5.1	5.8	4.5	5.7	7.6	8.1	8.2	8.1
		IDC grade 3; ER-/PR-/HER2-	High (34)	7.0	6.7	6.5	6.9	9.9	10.0	8.5	8.9
9	68	ILC grade 2; ER+/PR+/HER2-	High (39)	5.1	4.6	4.0	4.0	5.4	5.0	4.6	4.4
10	54	ILC grade 1; ER+/PR-/HER2-	High (15)	1.7	1.5	1.2	1.3	1.7	1.3	0.9	0.7
11	73	ILC grade 1; ER+/PR+/HER2-	Low (2)	1.6	2.0	2.0	2.1	2.2	2.7	2.9	3.1
12	49	ILC grade 2; ER+/PR+/HER2-	High (25)	1.6	1.7	1.6	1.6	2.4	3.03	3.0	2.6

Note: NA- Not applicable; \* - Confirmed on conventional imaging

IDC- Invasive ductal carcinoma, ILC – Invasive lobular carcinoma; IMC – Invasive metaplastic carcinoma; ER – Estrogen receptor; PR – Progesterone receptor; HER2 receptor – Human epidermal growth factor receptor 2