

Suppl. Table S1. Clinical characteristics of patients with breast cancer (in Suppl. Fig. S1D)

A

	Patient Number	%
De novo Stage IV		
No	124	79.5
Yes	32	20.5
N/A = 6		
Subtype		
Luminal-like	79	49.7
HER2 positive	33	22.0
TNBC	45	28.3
N/A = 5		
Histotype		
IDC	126	86.9
ILC	16	11.0
Other	3	2.1
N/A = 17		
Visceral involvement		
No	66	41.3
Yes	94	58.7
N/A = 2		
Liver		
No	104	64.2
Yes	58	35.8
Lung		
No	107	66.1
Yes	55	33.9
CNS		
No	149	92.0
Yes	13	8.0
Non visceral involvement		
No	22	13.8
Yes	138	86.2
N/A = 2		
Bone		
No	73	45.1
Yes	89	54.9
Lymph nodes		
No	85	52.5
Yes	77	47.5
Chemotherapy		
No	54	33.3
Yes	108	66.7
Endocrine therapy		
No	117	72.2
Yes	45	27.8
Immunotherapy		
No	147	90.7
Yes	15	9.3
CDK4/6 inhibition (Palbociclib)		
No	142	87.7
Yes (in non-chemo group)	20	12.3
Treatment line		
1	39	27.9
2	24	17.1
3	25	17.9
4	21	15.0
≥ 5	31	22.1
N/A = 22		
Clusters at baseline		
Absence	143	88.3
Present	19	11.7
Clusters at E1		
Absence	73	84.9
Present	13	15.1
N/A = 76		

B Multivariable Cox regression model with overall survival

	Hazard Ratio	[95% Conf. Interval]		P value
Liver mets	3.57	1.12	11.42	0.032
Lung mets	1.81	0.61	5.36	0.286
CNS mets	3.94	1.37	11.34	0.011
Therapy line				
2	1.61	0.28	9.20	0.59
≥3	2.12	0.55	8.18	0.274
CTC cluster at baseline				
	1.55	0.39	6.14	0.534
CTC cluster at E1				
	4.85	1.26	18.72	0.022

*Abbreviations

N/A, not available

TNBC, triple negative breast cancer

IDC, invasive ductal carcinoma

ILC, invasive lobular carcinoma

E1, evaluation timepoint 1

Suppl. Table S2. Clinical characteristics of breast cancer patients +/- chemo (in Fig 1A)

	Received Chemotherapy		Chi Square P value
	No (-)	Yes (+)	
De novo Stage IV			0.123
Non visceral involvement	35	80	
Yes	14	17	
Subtype			0.008
Luminal-like	31	41	
HER2 positive	12	20	
TNBC	7	38	
Histotype			0.246
IDC	35	81	
ILC	7	9	
Other	2	1	
Visceral involvement			0.944
No	21	39	
Yes	31	59	
Liver metastasis			0.599
No	35	63	
Yes	17	37	
Lung			0.948
No	33	64	
Yes	19	36	
CNS			0.735
No	47	92	
Yes	5	8	
Non visceral involvement			0.182
No	4	15	
Yes	48	83	
Bone			0.041
No	17	50	
Yes	35	50	
Lymph nodes			0.176
No	32	50	
Yes	20	50	
Taxanes			0.001
No	52	81	
Yes	0	19	
Endocrine therapy			< 0.001
No	18	91	
Yes	34	9	
Immunotherapy			0.517
No	48	89	
Yes	4	11	
Treatment line			0.148
1	19	20	
2	7	16	
≥3	22	49	
Clusters at baseline			0.438
Absence	47	86	
Present	5	14	
Clusters at E1			0.135
Absence	30	36	
Present	3	10	

*Abbreviations

N/A, not available

TNBC, triple negative breast cancer

IDC, invasive ductal carcinoma

ILC, invasive lobular carcinoma

E1, evaluation timepoint 1