

A.

Signature	POG					Probable Associations	Additional Features	#	Cancer types	Significant Cancer Type
	NNLS	NNLS	NNLS	NNLS	NNLS					
Signature 1	0.168	0.298	0.211	0.318	0.154	Age	I	40	all	
Signature 2	0.008	0.006	0.000	0.000	0.018	APOBEC	-	22	cervical cancer, urinary bladder cancer	
Signature 3	0.168	0.000	0.018	0.000	0.168	BRCA1/2 mutations	I	3	breast cancer, ovarian cancer, pancreatic cancer	
Signature 4	0.000	0.000	0.000	0.000	0.000	Smoking	D,T	6	head and neck cancer, liver cancer, lung cancer, esophageal cancer	
Signature 5	0.161	0.304	0.264	0.041	0.380	-	-	40	all	
Signature 6	0.000	0.000	0.000	0.000	0.001	DNA MMR deficiency	I	17	colorectal cancer, uterine cancer	
Signature 7	0.000	0.000	0.000	0.000	0.000	UV light	D,T	2	skin cancer, oral squamous cell carcinoma	
Signature 8	0.102	0.104	0.159	0.135	0.000	-	-	2	breast cancer, medulloblastoma	
Signature 9	0.005	0.038	0.021	0.038	0.009	IG gene hypermutation	-	2	chronic lymphocytic leukemia, diffuse large B-cell lymphoma	
Signature 10	0.016	0.000	0.007	0.005	0.000	Pol e mutations	T	6	colorectal cancer, uterine cancer	
Signature 11	0.033	0.017	0.000	0.000	0.000	Temozolomide	-	2	melanoma, glioblastoma	
Signature 12	0.000	0.000	0.000	0.000	0.159	-	-	1	liver cancer	
Signature 13	0.013	0.008	0.005	0.011	0.008	APOBEC	-	22	cervical cancer, urinary bladder cancer	
Signature 14	0.000	0.000	0.000	0.000	0.000	-	-	2	uterine cancer, brain glioma	
Signature 15	0.000	0.000	0.000	0.000	0.000	DNA MMR deficiency	I	2	stomach cancer, lung cancer	
Signature 16	0.228	0.216	0.209	0.365	0.010	-	-	1	liver cancer	
Signature 17	0.000	0.000	0.000	0.000	0.000	-	-	7	esophageal cancer, breast cancer, liver cancer, lung adenocarcinoma, B-cell lymphoma, stomach cancer, r	
Signature 18	0.000	0.000	0.000	0.000	0.000	-	-	3	neuroblastoma, breast cancer, stomach cancer	
Signature 19	0.000	0.000	0.000	0.000	0.000	-	-	1	pilocytic astrocytoma	
Signature 20	0.000	0.000	0.000	0.000	0.049	DNA MMR deficiency	I	2	stomach cancer, breast cancer	
Signature 21	0.000	0.000	0.000	0.000	0.000	-	-	1	stomach cancer	
Signature 22	0.000	0.000	0.000	0.000	0.004	aristolochic acid	-	2	urinary bladder cancer, liver cancer	
Signature 23	0.000	0.000	0.000	0.000	0.000	-	-	1	liver cancer	
Signature 24	0.000	0.000	0.000	0.000	0.000	aflatoxin	-	1	liver cancer	
Signature 25	0.000	0.000	0.000	0.000	0.000	-	-	1	Hodgkin's lymphoma cell lines	
Signature 26	0.000	0.000	0.000	0.000	0.000	DNA MMR deficiency	I	4	breast cancer, cervical cancer, stomach cancer, uterine cancer	
Signature 27	0.002	0.001	0.002	0.005	0.000	-	I	1	renal clear cell carcinoma	
Signature 28	0.000	0.000	0.000	0.000	0.017	-	-	1	stomach cancer	
Signature 29	0.000	0.000	0.000	0.000	0.000	Tobacco chewing	-	1	oral squamous cell carcinoma	
Signature 30	0.035	0.011	0.104	0.082	0.024	-	-	1	breast cancer	

B.

