Supplementary table 3. Clinical and molecular demographics of all patients in the hospital-based cohort

Arseniasis grade	Gender	Age	Smoking history	CKD grade	ESRD	Tumor location	Synchronous bladder cancer	Multiplicity	Tumor grade	Tumr stage	Aristolactam-DNA adducts	TP53 mutation pattern
1	M	50	continued smoker	5	1	P	no	no	high	TaN0M0	yes	no mutation
1	M	59	continued smoker	0	0	LU	no	no	high	T2N0M0	yes	mutations other than A>T
2	F	46	never	0	0	P, LU	yes	yes	high	T3N0M0	yes	A>T mutation
1	M	42	continued smoker	3	0	P	no	no	high	T3N0M0	yes	no mutation
1	M	53	continued smoker	0	0	P, LU	no	yes	high	T3N0M0	yes	mutations other than A>T
3	M	63	never	3	0	UU	no	no	high	TaN0M0	yes	no mutation
1	F	74	never	3	0	P	no	no	high	T3N0M0	yes	A>T mutation
1	F	78	never	3	0	LU	no	no	high	T3N0M0	yes	A>T mutation
1	F	70	never	5	1	P	no	no	high	T1N0M0	no	no mutation
1	M	58	never	3	0	P	no	no	high	T1N0M0	yes	A>T mutation
1	F	78	never	0	0	LU	no	no	high	nodal	yes	no mutation
1	M	80	continued smoker	0	0	P	yes	yes	low	T1N0M0	yes	no mutation
1	F	56	continued smoker	0	0	LU	no	no	high	T1N0M0	yes	A>T mutation
3	M	66	never	0	0	P	no	no	low	TaN0M0	yes	A>T mutation
2	F	66	never	0	0	P	no	no	low	TaN0M0	yes	no mutation
1	M	73	continued smoker	3	0	P	no	no	high	T1N0M0	yes	A>T mutation
0	M	77	ex-smoker	4	0	LU	yes	no	high	T3N0M0	yes	mutations other than A>T
0	M	63	never	1	0	P	yes	yes	high	T1N0M0	yes	no mutation
1	F	46	never	2	0	P, UU, LU	yes	yes	high	T3N0M0	yes	A>T mutation
0	F	59	never	2	0	P	no	no	low	TaN0M0	yes	no mutation
0	F	56	never	1	0	P	no	no	low	TaN0M0	yes	no mutation
0	M	81	never	3	0	LU	no	no	high	T1N0M0	yes	mutations other than A>T
0	M	46	never	2	0	P	no	no	high	T3N0M0	yes	no mutation
0	F	81	never	5	0	LU	no	no	high	T3N0M0	yes	mutations other than A>T
0	F	43	never	5	0	P, UU, LU	yes	yes	high	T1N0M0	yes	A>T mutation
0	F	84	never	3	0	P	yes	yes	low	TaN0M0	yes	no mutation
0	F	56	never	0	0	P	no	no	high	nodal	yes	A>T mutation
0	F	68	never	3	0	P	no	no	low	TaN0M0	yes	no mutation
0	F	70	never	5	1	P, LU	no	yes	high	T3N0M0	yes	A>T mutation
0	M	60	continued smoker	0	0	P, UU	no	yes	high	T3N0M0	yes	A>T mutation
0	M	57	continued smoker	0	0	P	no	no	high	T3N0M0	yes	no mutation
0	M	74	continued smoker	0	0	P	no	yes	high	TaN0M0	yes	no mutation
0	F	50	never	3	0	LU	yes	yes	high	metastatic	yes	mutations other than A>T
0	F	61	never	0	0	P, UU	no	yes	high	T1N0M0	yes	mutations other than A>T
0	F	56	never	5	1	P	no	no	high	T1N0M0	yes	A>T mutation
0	F	57	never	0	0	UU	no	no	high	T3N0M0	yes	mutations other than A>T
0	F	52	never	5	1	P	no	no	high	T1N0M0	yes	A>T mutation
0	F	73	continued smoker	0	0	P	no	no	high	TaN0M0	yes	no mutation
0	F	77	never	0	0	P, UU	no	yes	low	TaN0M0	yes	no mutation
0	M	54	continued smoker	0	0	P, UU	no	yes	high	T1N0M0	yes	no mutation
0	F	77	never	3	0	P	no	no	high	nodal	yes	no mutation
0	M	70	never	3	0	LU	yes	no	high	T1N0M0	yes	A>T mutation
0	M	79	never	3	0	P	no	no	high	metastatic	yes	no mutation
0	F	59	never	0	0	P	no	no	low	TaN0M0	yes	no mutation
0	F	65	never	3	0	P, UU	yes	yes	high	T1N0M0	yes	A>T mutation
0	F	79	never	3	0	P	no	no	high	TaN0M0	yes	mutations other than A>T
0	F	71	never	3	0	LU	yes	yes	high	T2N0M0	yes	mutations other than A>T
0	F	72	never	4	0	P	no	no	low	T1N0M0	yes	A>T mutation
0	M	60	never	0	0	P	no	no	high	nodal	yes	mutations other than A>T
0	F	67	never	5	1	P, UU	yes	yes	high	T1N0M0	no	missing
0	M	79	never	3	0	P	no	no	high	T3N0M0	yes	no mutation
0	M	71	never	0	0	P	no	no	high	nodal	yes	missing
0	M	80	never	3	0	P, UU	no	yes	high	nodal	yes	A>T mutation
0	M	81	never	3	0	P	no	no	high	T1N0M0	yes	no mutation
0	F	41	never	0	0	P	no	no	high	T3N0M0	yes	no mutation
0	M	82	never	0	0	LU	no	no	high	T2N0M0	yes	no mutation
0	F	72	never	3	0	P	no	no	high	metastatic	yes	missing
0	F	80	never	3	0	LU	no	no	high	T2N0M0	yes	no mutation
0	M	71	never	3	0	LU	no	no	high	T1N0M0	yes	no mutation
0	M	47	never	3	0	P	no	no	high	T3N0M0	yes	A>T mutation
1	M	62	never	3	0	P, UU, LU	yes	yes	high	T3N0M0	yes	missing
1	F	76	never	3	0	P	no	no	high	T3N0M0	yes	no mutation
1	M	35	never	3	0	P	no	no	high	T3N0M0	yes	no mutation
1	F	70	never	3	0	P	no	no	low	TaN0M0	yes	no mutation
2	F	77	never	4	0	P	yes	yes	high	T3N0M0	yes	A>T mutation
2	M	85	never	4	0	P	no	no	high	T1N0M0	yes	mutations other than A>T
1	F	75	never	3	0	LU	no	no	high	T3N0M0	yes	A>T mutation
2	F	73	never	0	0	P	no	no	high	T3N0M0	yes	no mutation
1	F	66	never	0	0	P	yes	yes	high	T3N0M0	yes	A>T mutation
1	M	69	never	0	0	P	no	no	high	nodal	yes	mutations other than A>T
1	F	68	ex-smoker	3	0	P	no	no	high	T2N0M0	yes	A>T mutation
3	M	72	never	missing	missing	P	no	no	high	T1N0M0	yes	mutations other than A>T
3	F	53	never	5	1	P	no	no	high	T2N0M0	yes	A>T mutation
3	M	81	continued smoker	3	0	P	yes	yes	high	T1N0M0	yes	no mutation
3	M	66	never	0	0	UU	no	yes	high	T1N0M0	yes	no mutation
3	M	49	continued smoker	0	0	P	no	yes	high	T1N0M0	yes	missing
3	F	67	never	0	0	P, UU	yes	yes	high	nodal	yes	mutations other than A>T
3	M	64	never	4	0	P	no	no	high	T1N0M0	yes	A>T mutation
3	F	79	never	3	0	LU	no	no	high	T2N0M0	no	no mutation
3	F	78	never	3	0	P	no	no	high	T2N0M0	yes	no mutation
3	M	71	never	3	0	P	no	yes	high	T1N0M0	yes	mutations other than A>T
3	F	65	never	3	0	LU	no	no	high	T3N0M0	yes	missing
3	M	72	never	0	0	P	yes	yes	low	TaN0M0	no	no mutation
3	M	70	never	5	1	P, UU	no	yes	high	T2N0M0	yes	no mutation
3	F	78	never	3	0	P	no	no	high	T1N0M0	yes	no mutation
3	F	62	never	0	0	LU	no	no	high	nodal	Aristolactam-DNA adducts	no mutation
3	F	63	never	0	0	P	no	yes	high	TaN0M0	DNA adducts	no mutation
3	M	58	never	0	0	UU	no	no	high	T2N0M0	yes	A>T mutation
3	F	80	never	0	0	P	yes	yes	high	T3N0M0	yes	no mutation

CKD = chronic kidney disease; ESRD = end stage renal disease
*Tumor location: P = renal pelvis, UU = upper ureter, LU = lower ureter