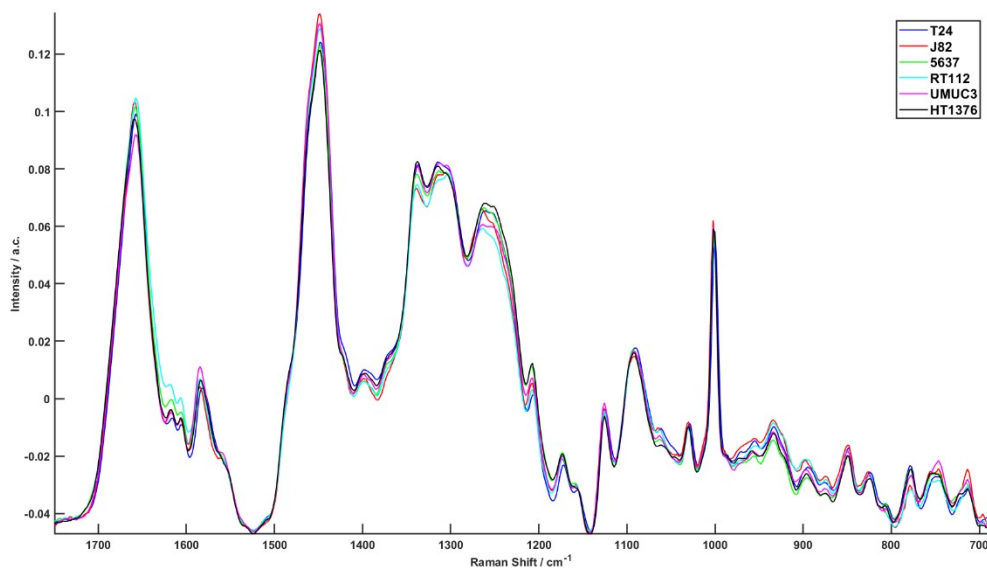


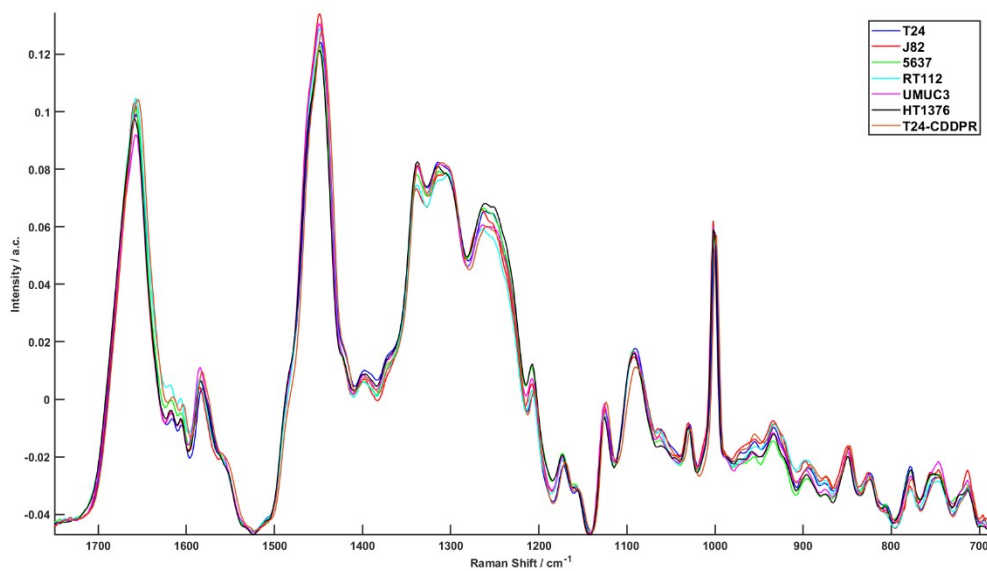
Supplementary Information

Section 1: Raman spectra of the bladder cell lines

Mean spectra of the 6 cell lines -

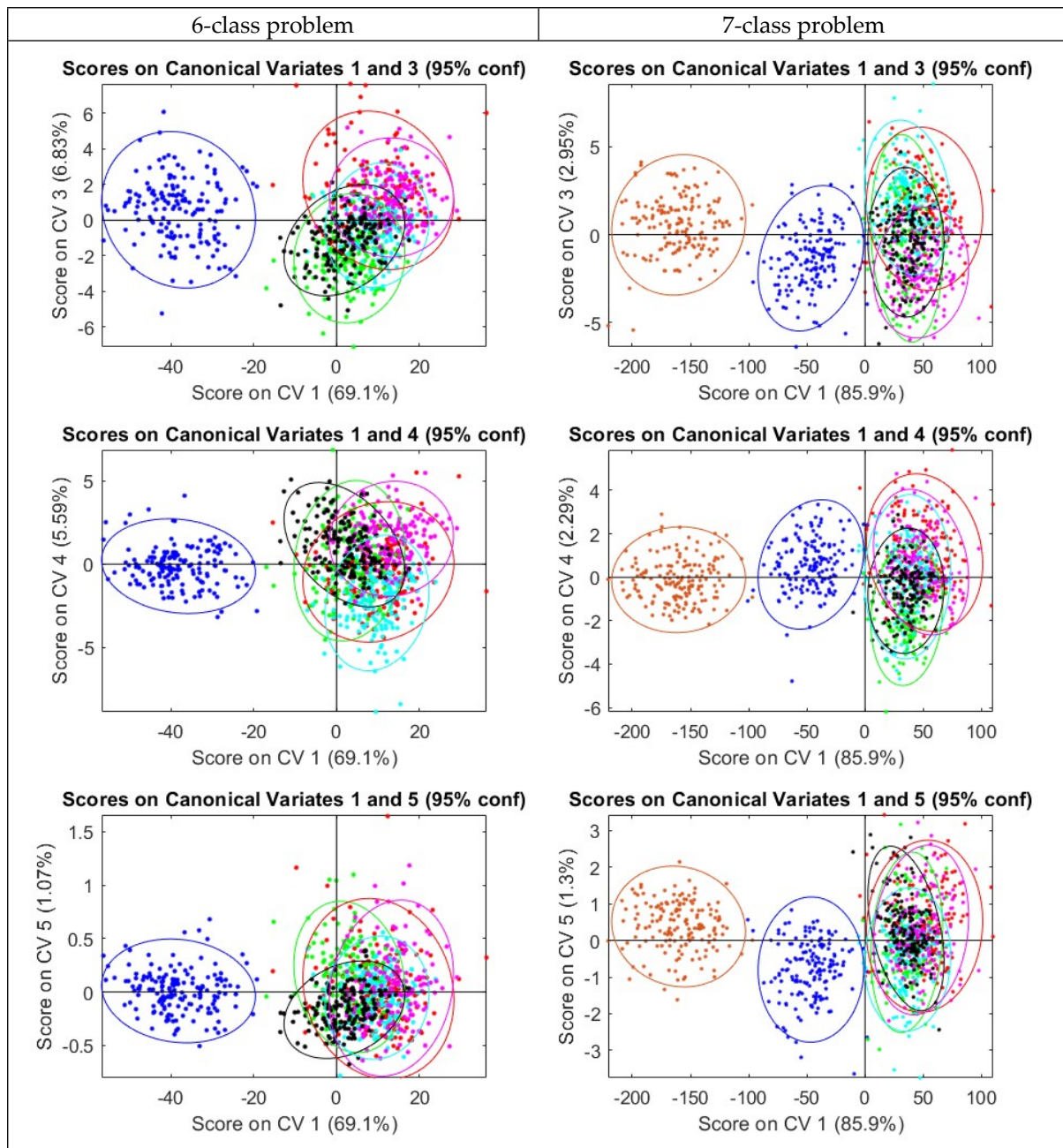


Mean spectra of the 6 cell line with the cisplatin resistant T24 cell line

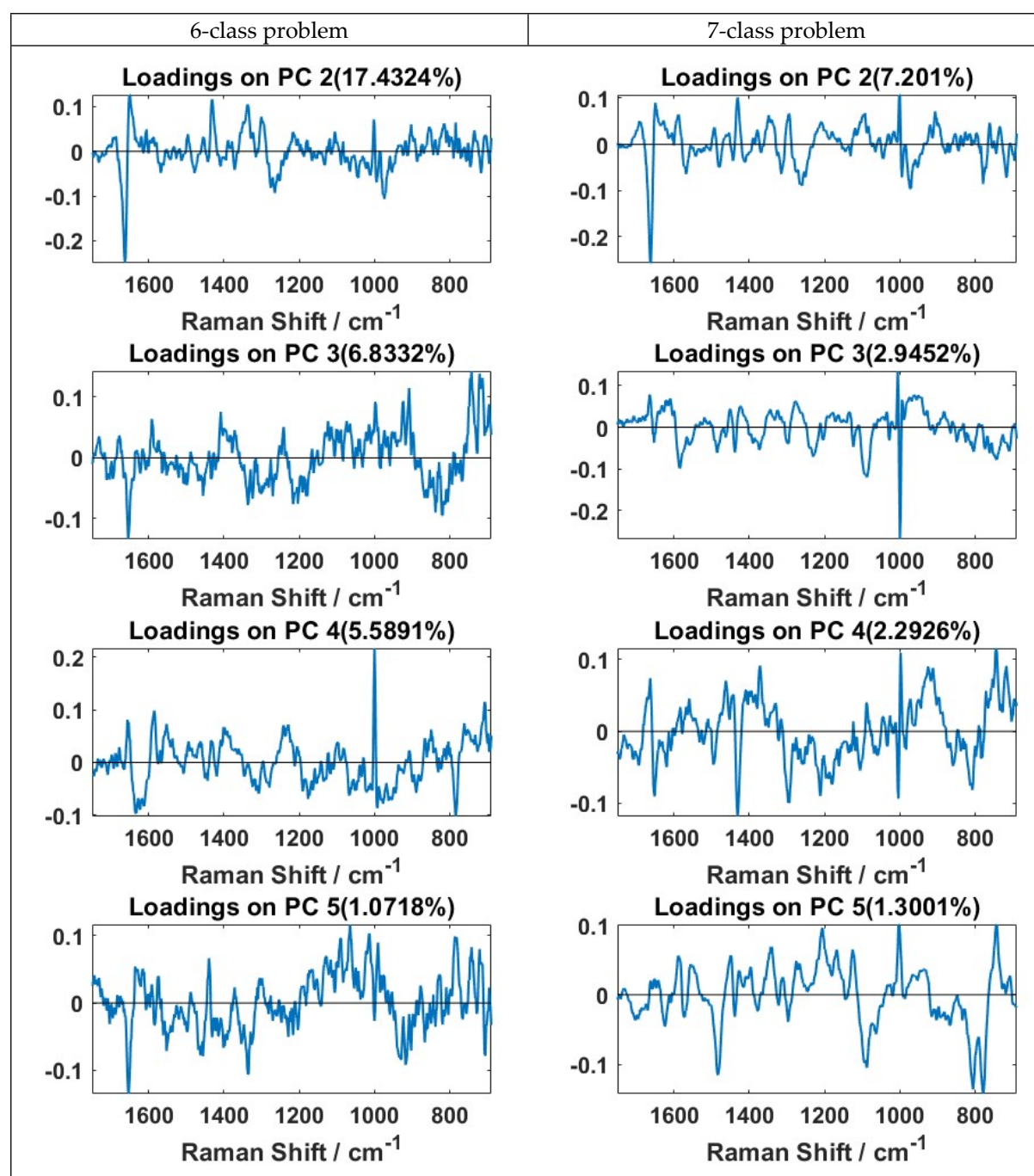


Section 2: Other PC-CVA results

Other Scores plot – all other AVs against CV1



Other CV loadings



Section 3: Classification results of the six bladder cell lines.

The confusion matrixes (in percentage) of the 5-fold PC-CVA cross validation:

		True Condition					
		T24	J82	5637	RT112	UMUC-3	HT-1376
Fold 1 Prediction	T24	100.0	0.0	0.0	0.0	0.0	0.0
	J82	0.0	90.6	3.1	0.0	9.4	21.9
	5637	0.0	0.0	78.1	3.1	81.3	21.9
	RT-112	0.0	3.1	12.5	87.5	6.3	0.0
	UMUC-3	0.0	0.0	0.0	0.0	0.0	0.0
	HT-1376	0.0	6.3	6.3	0.0	3.1	56.3
Fold 2 Prediction	T24	100.0	0.0	0.0	0.0	0.0	0.0
	J82	0.0	93.8	9.4	0.0	21.9	12.5
	5637	0.0	3.1	81.3	0.0	68.8	34.4
	RT-112	0.0	0.0	6.3	100.0	3.1	0.0
	UMUC-3	0.0	0.0	0.0	0.0	0.0	0.0
	HT-1376	0.0	0.0	3.1	0.0	6.3	50.0
Fold 3 Prediction	T24	100.0	0.0	0.0	0.0	0.0	0.0
	J82	0.0	90.6	21.9	3.1	3.1	12.5
	5637	0.0	3.1	68.8	9.4	84.4	40.6
	RT-112	0.0	3.1	3.1	78.1	6.3	3.1
	UMUC-3	0.0	0.0	0.0	0.0	0.0	0.0
	HT-1376	0.0	3.1	6.3	3.1	6.3	43.8
Fold 4 Prediction	T24	100.0	0.0	0.0	0.0	0.0	0.0
	J82	0.0	93.8	3.1	3.1	3.1	12.5
	5637	0.0	3.1	84.4	12.5	84.4	21.9
	RT-112	0.0	0.0	6.3	75.0	3.1	0.0
	UMUC-3	0.0	0.0	0.0	0.0	0.0	0.0
	HT-1376	0.0	3.1	6.3	3.1	6.3	59.4
Fold 5 Prediction	T24	100.0	0.0	0.0	0.0	0.0	0.0
	J82	0.0	93.8	3.1	0.0	0.0	12.5
	5637	0.0	3.1	84.4	18.8	0.0	25.0
	RT-112	0.0	0.0	3.1	65.6	0.0	0.0
	UMUC-3	0.0	0.0	0.0	0.0	0.0	0.0
	HT-1376	0.0	3.1	6.3	0.0	0.0	62.5

The confusion matrixes (in percentage) of the Random Forest independent tests:

		True Condition					
		T24	J82	5637	RT112	UMUC-3	HT-1376
R1 as test set	T24	50.0	0.0	0.0	0.0	9.8	0.0
	J82	0.0	65.7	11.1	0.0	0.0	24.6
	5637	3.0	8.6	33.3	100.0	3.9	31.6
	RT-112	33.3	0.0	0.0	0.0	17.6	12.3
	UMUC-3	4.5	0.0	0.0	0.0	68.6	0.0
	HT-1376	9.1	25.7	55.6	0.0	0.0	31.6
F R2 as test set	T24	100.0	4.2	0.0	12.5	0.0	0.0
	J82	0.0	91.7	4.5	0.0	0.0	20.0
	5637	0.0	0.0	3.0	25.0	3.4	50.8
	RT-112	0.0	0.0	57.6	0.0	0.0	0.0
	UMUC-3	0.0	0.0	0.0	62.5	96.6	7.7
	HT-1376	0.0	4.2	34.8	0.0	0.0	21.5
R3 as test set	T24	100.0	0.0	0.0	0.0	0.0	0.0
	J82	0.0	23.6	23.1	22.2	8.6	40.6
	5637	0.0	12.7	69.2	0.0	8.6	46.9
	RT-112	0.0	12.7	0.0	66.7	30.9	0.0
	UMUC-3	0.0	0.0	0.0	0.0	44.4	6.3
	HT-1376	0.0	50.9	7.7	11.1	7.4	6.3
R4 as test set	T24	100.0	0.0	5.5	0.0	0.0	31.0
	J82	0.0	55.4	0.0	6.9	0.0	11.9
	5637	0.0	21.4	29.1	0.0	0.0	23.8
	RT-112	0.0	7.1	0.0	82.8	8.3	19.0
	UMUC-3	0.0	1.8	16.4	10.3	91.7	7.1
	HT-1376	0.0	14.3	49.1	0.0	0.0	7.1

Section 4: Classification results of the seven bladder cell lines.

The confusion matrixes (in percentage) of the 5-fold CVA cross validation:

		True Condition						
		T24	J82	5637	RT112	UMUC-3	HT-1376	T24-CDDPR
Fold 1 Prediction	T24	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	J82	0.0	96.9	9.4	9.4	6.3	18.8	0.0
	5637	0.0	3.1	68.8	6.3	0.0	37.5	0.0
	RT-112	0.0	0.0	6.3	78.1	3.1	0.0	0.0
	UMUC-3	0.0	0.0	9.4	6.3	90.6	0.0	0.0
	HT-1376	0.0	0.0	6.3	0.0	0.0	43.8	0.0
	T24-CDDPR	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Fold 2 Prediction	T24	96.9	0.0	0.0	0.0	0.0	0.0	0.0
	J82	3.1	87.5	6.3	9.4	0.0	18.8	0.0
	5637	0.0	6.3	75.0	15.6	6.3	25.0	0.0
	RT-112	0.0	0.0	9.4	65.6	6.3	0.0	0.0
	UMUC-3	0.0	0.0	6.3	9.4	84.4	3.1	0.0
	HT-1376	0.0	6.3	3.1	0.0	3.1	53.1	0.0
	T24-CDDPR	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Fold 3 Prediction	T24	96.9	0.0	0.0	0.0	0.0	0.0	0.0
	J82	0.0	84.4	15.6	0.0	0.0	21.9	0.0
	5637	0.0	6.3	68.8	6.3	6.3	21.9	0.0
	RT-112	0.0	0.0	9.4	84.4	0.0	0.0	0.0
	UMUC-3	0.0	3.1	3.1	9.4	87.5	3.1	0.0
	HT-1376	0.0	6.3	3.1	0.0	6.3	53.1	0.0
	T24-CDDPR	3.1	0.0	0.0	0.0	0.0	0.0	100.0
Fold 4 Prediction	T24	100.0	3.1	0.0	0.0	0.0	0.0	0.0
	J82	0.0	81.3	12.5	6.3	0.0	21.9	0.0
	5637	0.0	6.3	81.3	6.3	3.1	31.3	0.0
	RT-112	0.0	3.1	3.1	84.4	12.5	0.0	0.0
	UMUC-3	0.0	0.0	0.0	3.1	81.3	3.1	0.0
	HT-1376	0.0	6.3	3.1	0.0	3.1	43.8	0.0
	T24-CDDPR	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Fold 5 Prediction	T24	96.9	0.0	0.0	0.0	0.0	0.0	0.0
	J82	3.1	87.5	6.3	12.5	0.0	15.6	0.0
	5637	0.0	3.1	87.5	0.0	6.3	21.9	0.0
	RT-112	0.0	3.1	6.3	71.9	6.3	3.1	0.0
	UMUC-3	0.0	3.1	0.0	15.6	87.5	3.1	0.0
	HT-1376	0.0	3.1	0.0	0.0	0.0	56.3	0.0
	T24-CDDPR	0.0	0.0	0.0	0.0	0.0	0.0	100.0

The confusion matrixes (in percentage) of the Random Forest independent tests:

		True Condition						
		T24	J82	5637	RT112	UMUC-3	HT-1376	T24-CDDPR
R1 as test set	T24	56.5	0.0	0.0	0.0	6.5	0.0	0.0
	J82	0.0	69.7	10.0	0.0	0.0	21.2	0.0
	5637	3.2	9.1	50.0	87.5	4.3	28.8	0.0
	RT-112	30.6	0.0	0.0	12.5	15.2	13.6	4.9
	UMUC-3	3.2	0.0	0.0	0.0	71.7	3.0	2.4
	HT-1376	6.5	21.2	40.0	0.0	2.2	33.3	0.0
	T24-CDDPR	0.0	0.0	0.0	0.0	0.0	0.0	92.7
R2 as test set	T24	97.3	6.3	0.0	20.0	0.0	0.0	0.0
	J82	2.7	93.8	4.5	0.0	0.0	26.8	0.0
	5637	0.0	0.0	1.5	20.0	3.1	49.3	0.0
	RT-112	0.0	0.0	56.7	0.0	0.0	0.0	0.0
	UMUC-3	0.0	0.0	0.0	60.0	96.9	5.6	0.0
	HT-1376	0.0	0.0	37.3	0.0	0.0	18.3	0.0
	T24-CDDPR	0.0	0.0	0.0	0.0	0.0	0.0	100.0
R3 as test set	T24	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	J82	0.0	31.0	16.7	22.2	8.1	36.0	0.0
	5637	0.0	12.1	75.0	0.0	10.5	52.0	0.0
	RT-112	0.0	12.1	0.0	66.7	29.1	0.0	0.0
	UMUC-3	0.0	0.0	0.0	0.0	43.0	4.0	0.0
	HT-1376	0.0	44.8	8.3	11.1	9.3	8.0	0.0
	T24-CDDPR	0.0	0.0	0.0	0.0	0.0	0.0	100.0
R4 as test set	T24	100.0	0.0	0.0	0.0	0.0	20.5	13.6
	J82	0.0	64.3	0.0	10.8	0.0	17.9	0.0
	5637	0.0	14.3	36.4	8.1	0.0	23.1	0.0
	RT-112	0.0	2.4	0.0	73.0	8.0	20.5	0.0
	UMUC-3	0.0	2.4	10.9	8.1	92.0	12.8	0.0
	HT-1376	0.0	16.7	52.7	0.0	0.0	5.1	0.0
	T24-CDDPR	0.0	0.0	0.0	0.0	0.0	0.0	86.4

Session 3