

Supplementary Table 1. Individualized summary of prior systemic therapies and clinical outcomes.

Patient	Histology	IMDC Risk	Previous Therapy	Treatment	BR	CB
1	Clear Cell	Intermediate	Pazopanib, Bevacizumab	Nivolumab/ Ipilimumab	SD	No
2	Clear Cell	Intermediate		Sunitinib	PD	No
3	Clear Cell	Favorable	Everolimus	Sunitinib	SD	Yes
4	Clear Cell	Intermediate	Pazopanib	Nivolumab	SD	Yes
5	Clear Cell	Poor	Sunitinib	Nivolumab	SD	Yes
6	Clear Cell	Intermediate	Temsirolimus	Nivolumab	SD	Yes
7	Clear Cell	Favorable		Sunitinib	SD	Yes
8	Clear Cell	Favorable	Pazopanib	Nivolumab	PD	No
9	Collecting Duct	Intermediate	Carboplatin/Gemcitabine, Palbociclib, Paclitaxel/Palbociclib	Nivolumab	PD	No
10	Clear Cell	Intermediate	Sunitinib	Nivolumab	SD	No
11	Papillary	Intermediate	Cabozantinib	Nivolumab	PD	No
12	Clear Cell	Poor	Sunitinib	Nivolumab	PD	No
13	Clear Cell	Favorable	Axitinib/Avelumab	Nivolumab	PD	No
14	Clear Cell	Intermediate	Sunitinib	Nivolumab	PD	No
15	Clear Cell	Favorable		Sunitinib	SD	Yes
16	Papillary	Intermediate	Savolitinib	Nivolumab	PR	Yes
17	Clear Cell	Intermediate	Bevacizumab, XL 184, Pazopanib, Sonepizumab, 90Y sirspheres	Nivolumab	SD	Yes
18	Clear Cell	Favorable	Sunitinib, Everolimus, Sonepizumab	Nivolumab	PD	No
19	Papillary	Intermediate	Sunitinib, Cabozantinib	Nivolumab	PD	No
20	Clear Cell	Intermediate	Temsirolimus	Nivolumab	PD	No
21	Clear Cell	Intermediate		Sunitinib	PD	No
22	Sarcomatoid	Intermediate		Sunitinib	PD	No
23	Clear Cell	Favorable		Sunitinib	SD	Yes
24	Clear Cell	Poor	Axitinib/Avelumab, Cabozantinib	Nivolumab	SD	Yes
25	Clear Cell	Favorable	Sunitinib	Nivolumab	SD	Yes
26	Papillary	Favorable	Pazopanib	Nivolumab	SD	Yes
27	Clear Cell	Poor	Sunitinib	Nivolumab	PD	No
28	Clear Cell	Intermediate	IL-2, Sunitinib, Cabozantinib,	Nivolumab	PD	No
29	Clear Cell	Intermediate		Nivolumab/ Ipilimumab	PR	Yes
30	Clear Cell	Favorable		Nivolumab/ Ipilimumab	SD	Yes
31	Clear Cell	Favorable	Axitinib, Sorafenib, Cabozantinib	Nivolumab	SD	Yes
32	Clear Cell	Favorable		Nivolumab	SD	Yes
33	Clear Cell	Favorable	IL-2	Nivolumab/ Ipilimumab	SD	Yes
34	Clear Cell	Intermediate	Sunitinib, Nivolumab/Ipilimumab,	Lenvatinib/ Everolimus	PD	No

			Everolimus, Pazopanib, Cabozantinib			
35	Clear Cell	Poor		Nivolumab/Ipilimumab	SD	Yes
36	Clear Cell	Poor	Nivolumab/Ipilimumab	Cabozantinib	PD	No
37	Papillary	Intermediate	Pazopanib, Nivolumab	Cabozantinib	SD	Yes
38	Clear Cell	Favorable	Sunitinib, Nivolumab, Axitinib	Cabozantinib	PD	No
39	Clear Cell	Intermediate		Nivolumab/Ipilimumab	PD	No
40	Clear Cell	Favorable	Pazopanib	Nivolumab	PD	No
41	Clear Cell	Favorable	Sunitinib, Axitinib, Nivolumab	Cabozantinib	SD	Yes
42	Clear Cell	Intermediate	Axitinib	Lenvatinib/ Everolimus	SD	Yes
43	Clear Cell	Favorable	Cabozantinib	Nivolumab	SD	Yes
44	Clear Cell	Poor		Nivolumab/Ipilimumab	PR	Yes
45	Clear Cell	Intermediate	Nivolumab/Ipilimumab	Cabozantinib	SD	Yes
46	Clear Cell	Intermediate	Sunitinib, Everolimus, Pazopanib, Trebananib, Nivolumab	Cabozantinib	SD	No
47	Clear Cell	Intermediate	Cabozantinib/Atezolizumab	Lenvatinib/ Everolimus	PR	Yes
48	Clear Cell	Intermediate	Axitinib/Avelumab	Lenvatinib/ Everolimus	SD	Yes
49	Clear Cell	Favorable	Sunitinib, Nivolumab	Cabozantinib	PD	No
50	Clear Cell	Intermediate	Temsirolimus	Nivolumab/Ipilimumab	PR	Yes
51	Clear Cell	Intermediate	Pazopanib, Nivolumab	Cabozantinib	PD	No
52	Clear Cell	Intermediate	Sunitinib	Nivolumab	PD	No
53	Papillary	Favorable	Sunitinib, Nivolumab	Cabozantinib	SD	No
54	Clear Cell	Intermediate	Sunitinib	Axitinib	SD	Yes
55	Clear Cell	Favorable	Pazopanib, Nivolumab, Lenvatinib/ Everolimus	Cabozantinib	PR	Yes
56	Papillary	Poor	Cabozantinib, Nivolumab/Ipilimumab	Lenvatinib/ Everolimus	PR	Yes
IMDC: International Metastatic RCC Database Consortium; BR: best response; CB: clinical benefit; SD: stable disease; PD: progressive disease; PR: partial response						