

# 1 Supplementary Tables

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3 **Supplementary Table S1** - Differentially expressed genes between cells in integrated  
4 single-cell RNA seq dataset

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6 **Supplementary Table S2** - 3000 most variable genes used to identify cNMF modules,  
7 their cNMF weight in each programme, and which programme they are associated with

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9 **Supplementary Table S3** - Gene sets used to score cells for each biological process in  
10 figure 1 radar plot

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12 **Supplementary Table S4** - Cell type frequency for initial broad cell type annotation by  
13 sample

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15 **Supplementary Table S5** - Assignment of cNMF programmes to all CosMx cancer cells  
16 and breakdown of ambiguous cancer cells after threshold removal

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18 **Supplementary Table S6** - Moran's I spatial autocorrelation test scores

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20 **Supplementary Table S7** - cNMF scores before and after chemotherapy

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22 **Supplementary Table S8** - Differences in cNMF score after correction for sample  
23 sizes/cell numbers

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25 **Supplementary Table S9** - Percentage of cell types within given distances of a cancer  
26 cell

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28 **Supplementary Table S10** - Mean percentage of cell types within 50uM intervals of a  
29 cancer cell

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31 **Supplementary Table S11** - Difference in immune cell frequency in tri cell niche with  
32 MyoCAF and Cancer compared to M2 macrophages (adjusted for cell abundance)

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34 **Supplementary Table S12** - Percentage of cancer immune cells in a niche (radius of  
35 50uM) with a cancer cell and fibroblast subtype (corrected for cell type abundance)

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37 **Supplementary Table S13** - Number of differentially expressed genes between niche  
38 cancer cells and non-niche cancer cells at 5 $\mu$ m radius increments