**Supplemental Tables**

**Supplemental Table 1.** Association of the four correlative parameters and with other clinical characteristics.

**Supplemental Table 2.** Correlation ofpatient characteristics and ORR per irRC (PR vs SD/PD).

**Supplemental Table 3.** Patient characteristics (as continuous variables) in the correlative cohort per prior lines of therapy.

**Supplemental Table 4.** PFS and OS of correlative characteristics (as categorical variables) by year.

**Supplemental Table 5.** Characteristics as continuous variables of long term benefiters (Overall survival > 3 years with no intervening therapies) vs all other patients in the correlative cohort.