

Figure S1. Type of alteration found by NGS in profiled tumors of advanced ovarian cancer (All, n=79), including HGSOCs (HGSOC, n=64) **(a)** Bar graph representation of type of alteration in profiled tumors of advanced ovarian cancer, including HGSOCs **(b)** Bar graph representation of type of *TP53* gene alteration in profiled tumors of advanced ovarian cancer, including HGSOCs. INDEL: insertion or deletion leading to in-frame or frameshift change; HGSOC: high-grade serous ovarian cancer.

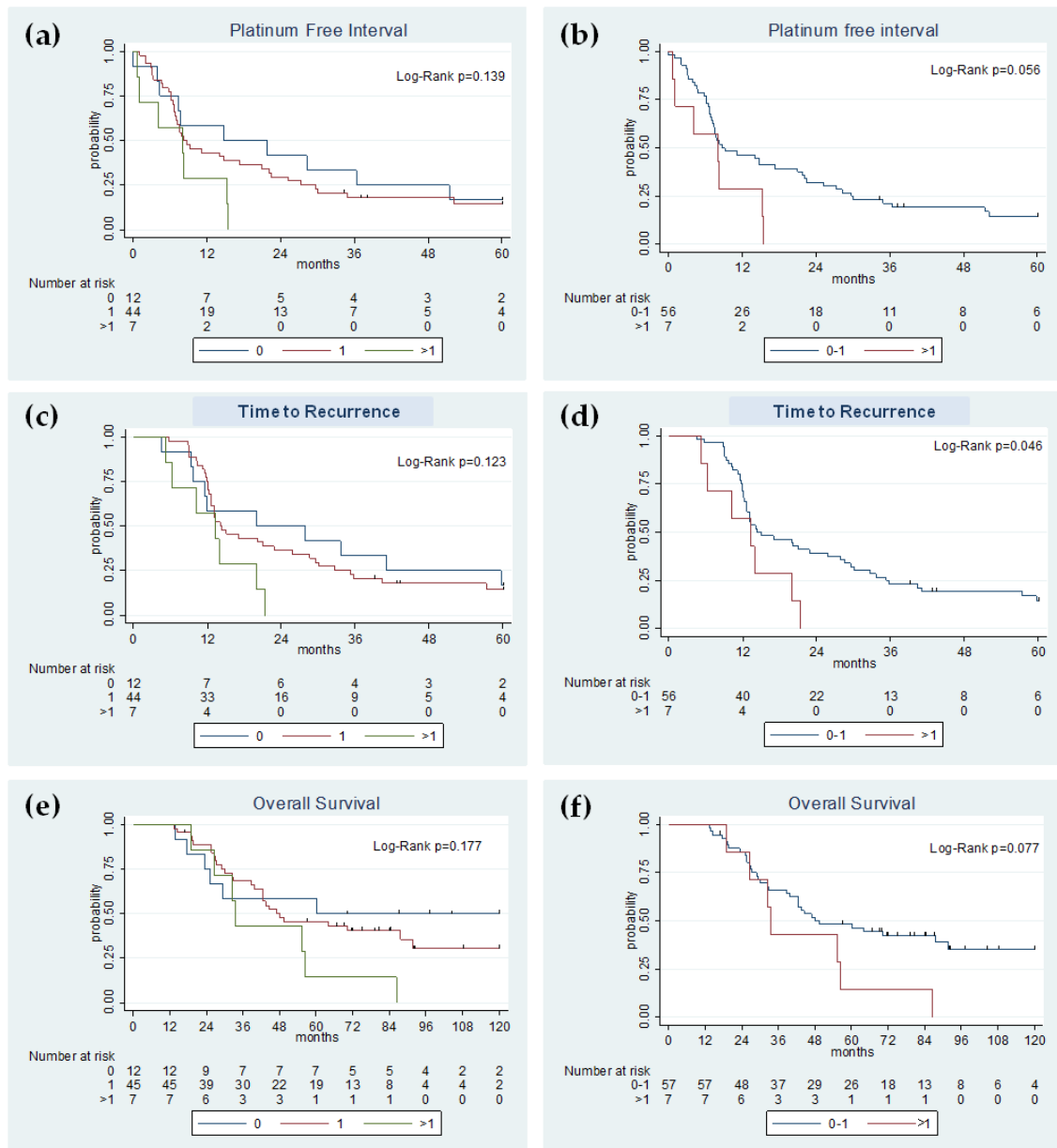


Figure S2. Kaplan-Meier survival curves for PFI, TTR and OS in patients with HGSOV and somatic mutations within the 26 cancer-genes panel. **(a)** PFI curves for patients ($n=63$) with 2 concurrent somatic mutations in 2 driver genes of the panel (>1, green line), 1 somatic mutation in 1 gene of the panel (1, red line) and without somatic mutations in genes within the panel (0, blue line). **(b)** PFI curves for patients ($n=63$) with 2 concurrent somatic mutations in 2 driver genes of the panel (>1, red line) and patients with 1 somatic mutation in 1 gene or without somatic mutations in genes within the panel (0-1, blue line). **(c)** TTR curves for patients ($n=63$) with 2 concurrent somatic mutations in 2 driver genes of the panel (>1, green line), 1 somatic mutation in 1 gene of the panel (1, red line) and without somatic mutations in genes within the panel (0, blue line). **(d)** TTR curves for patients ($n=63$) with 2 concurrent somatic mutations in 2 driver genes of the panel (>1, red line) and patients with 1 somatic mutation in 1 gene or without somatic mutations in genes within the panel (0-1, blue line). **(e)** OS curves for patients ($n=64$) with 2 concurrent somatic mutations in 2 driver genes of the panel (>1, green line), 1 somatic mutation in 1 gene of the panel (1, red line) and without somatic mutations in genes within the panel (0, blue line). **(f)** OS curves for patients ($n=64$) with 2 concurrent somatic mutations in 2 driver genes of the panel (>1, red line) and patients with 1 somatic mutation in 1 gene or without somatic mutations in genes within the panel (0-1, blue line). HGSOV: high-grade serous ovarian cancer; PFI: platinum free interval; TTR: time to recurrence; OS: overall survival.

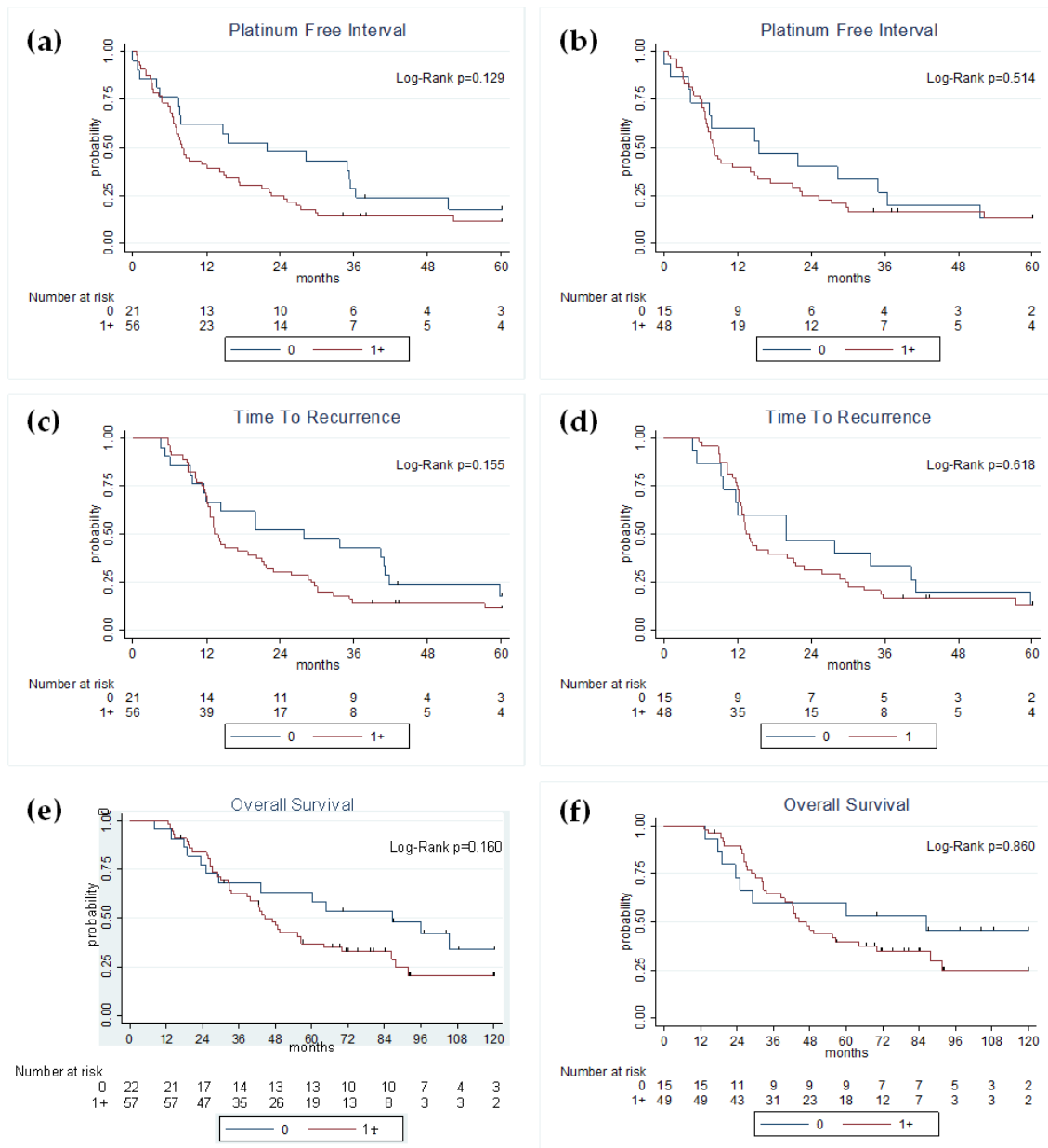


Figure S3. Kaplan-Meier survival curves for PFI, TTR and OS in patients with somatic mutations in *TP53* gene. **(a)** PFI curves for patients with at least 1 somatic mutation in *TP53* (1+, red line) and without somatic mutations in *TP53* (0, blue line), in advanced ovarian cancer (n=77). **(b)** PFI curves for patients with at least 1 somatic mutation in *TP53* (1+, red line) and without somatic mutations in *TP53* (0, blue line), in HGSOC (n=63). **(c)** TTR curves for patients with at least 1 somatic mutation in *TP53* (1+, red line) and without somatic mutations in *TP53* (0, blue line), in advanced ovarian cancer (n=77). **(d)** TTR curves for patients with at least 1 somatic mutation in *TP53* (1+, red line) and without somatic mutations in *TP53* (0, blue line), in HGSOC (n=63). **(e)** OS curves for patients with at least 1 somatic mutation in *TP53* (1+, red line) and without somatic mutations in *TP53* (0, blue line), in advanced ovarian cancer (n=79). **(f)** OS curves for patients with 2 concurrent somatic mutations in 2 driver genes of the panel (>1 , red line) and patients with at least 1 somatic mutation in *TP53* (1+, red line) and without somatic mutations in *TP53* (0, blue line), in HGSOC (n=64). HGSOC: high-grade serous ovarian cancer; PFI: platinum free interval; TTR: time to recurrence; OS: overall survival.