## **Description of Additional Supplementary Files**

**Supplementary Data 1:** Differential gene expression analysis (normalized counts). MYC-driven murine HCC cell line (EC4) pre (MYC<sup>high</sup>) and seven days post (MYC<sup>low</sup>) inactivation of MYC transgene expression (see Supplementary Figure 3b-e).

**Supplementary Data 2:** CRISPR-Cas9 screen essentiality scores.

**Supplementary Data 3:** Functional gene enrichment analysis of 1808 MYC synthetic-lethal genes (see Figure 1d).

Supplementary Data 4: Rank product analysis of gene essentiality scores in human HCC cell lines (CCLE).

**Supplementary Data 5**: Functional gene enrichment analysis of 342 genes in human HCC cell lines and murine HCC with high MYC expression (see Figure 1e).

**Supplementary Data 6:** Differential gene expression analysis (log2FoldChange). Primary murine HCC tumors pre (MYC<sup>high</sup>) and post (MYC<sup>low</sup>) inactivation of MYC transgene expression (see Figure 3a-c).

**Supplementary Data 7:** Differential gene expression analysis (log2FoldChange). Primary murine HCC tumors (MYC<sup>high</sup>) and normal liver (see Figure 3c).

**Supplementary Data 8:** Functional gene enrichment analysis of 516 MYC synthetic-lethal that are upregulated in primary murine MYC<sup>high</sup> tumors (see Figure 3b).