



**Figure S1** Representative case of parenchyma-sparing liver surgery. (A,B) Preoperative computed tomography imaging of multiple bilateral colorectal liver metastases. (C,D) 3D virtual cast reconstruction based on the pre-chemotherapy imaging; the 3D cast details the location of the tumors and the plan of resections. It is also shown the value of total liver volume, the value of cut areas, and the value of the future liver remnant.