

**Figure S1** Comparison of the bile microbiota in patients with and without cholangiolithiasis recurrence. (A,B) At the phylum level; (C,D) at the family level. P values are shown.

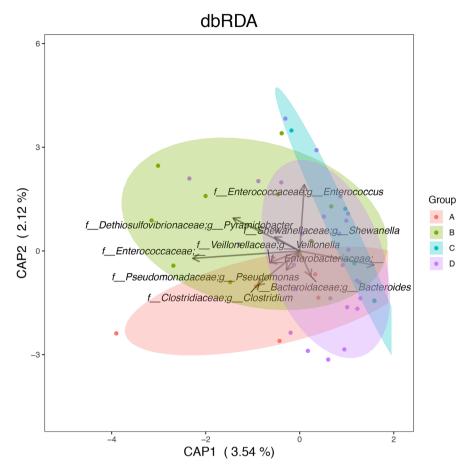
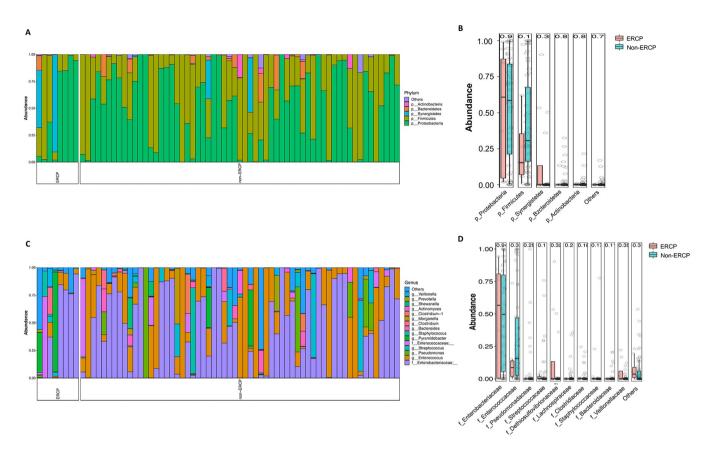


Figure S2 Distance-based redundancy analysis (dbRDA) showing the similarity of different groups. (A) SOL/recurrence; (B) SOL/non-recurrence; (C) non-SOL/recurrence; (D) non-SOL/non-recurrence. SOL, sphincter of Oddi laxity.



**Figure S3** Comparison of the bile microbiota in patients with and without previous sphincterotomy by ERCP. (A,B) At the phylum level; (C,D) at the family level. P values are shown. ERCP, endoscopic retrograde cholangiopancreatography.