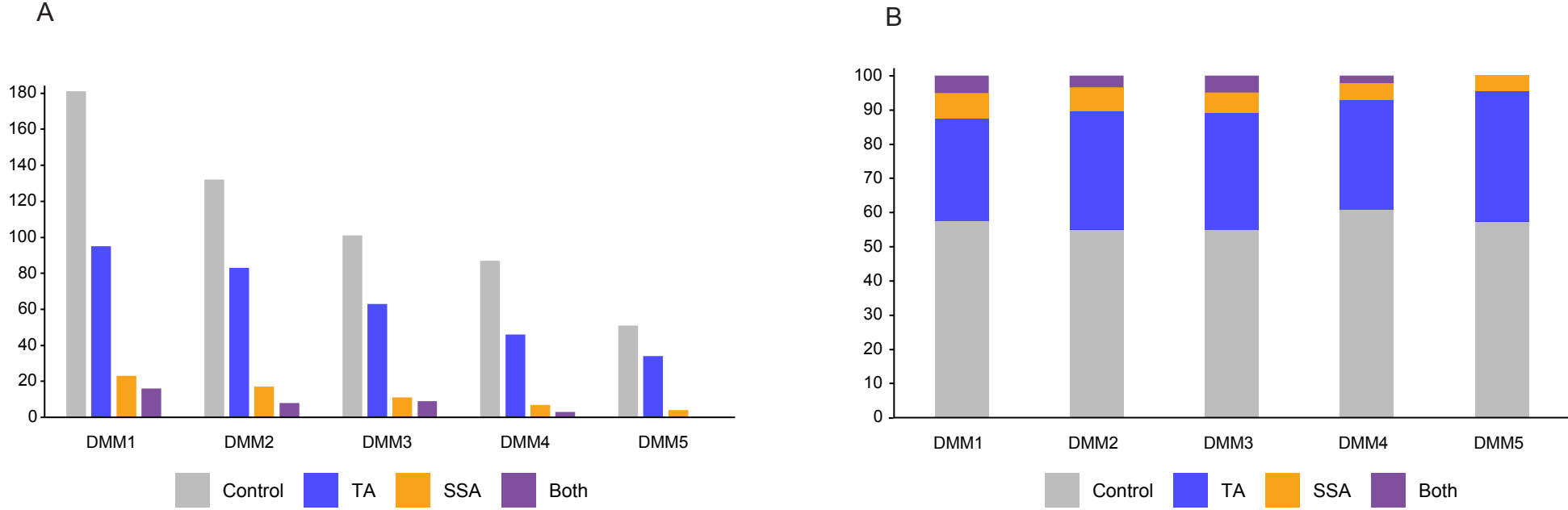
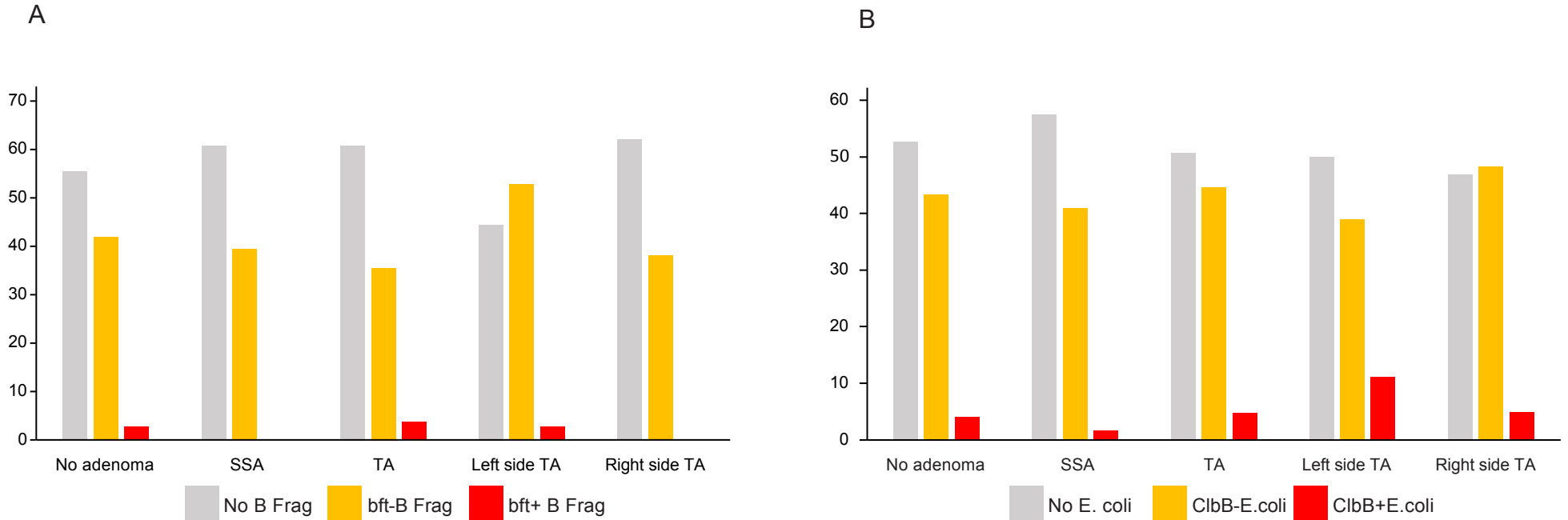


Figure S1



**Figure S1: Prevalence of adenoma subtypes amongst varying DMM subgroups**, Related to Figure 2. Barplot of the (A) counts and (B) proportions of subjects without adenomas (grey), with TA only (blue), with SSA only (orange) and with both TA & SSA (purple), stratified by the 5 DMM subgroups.

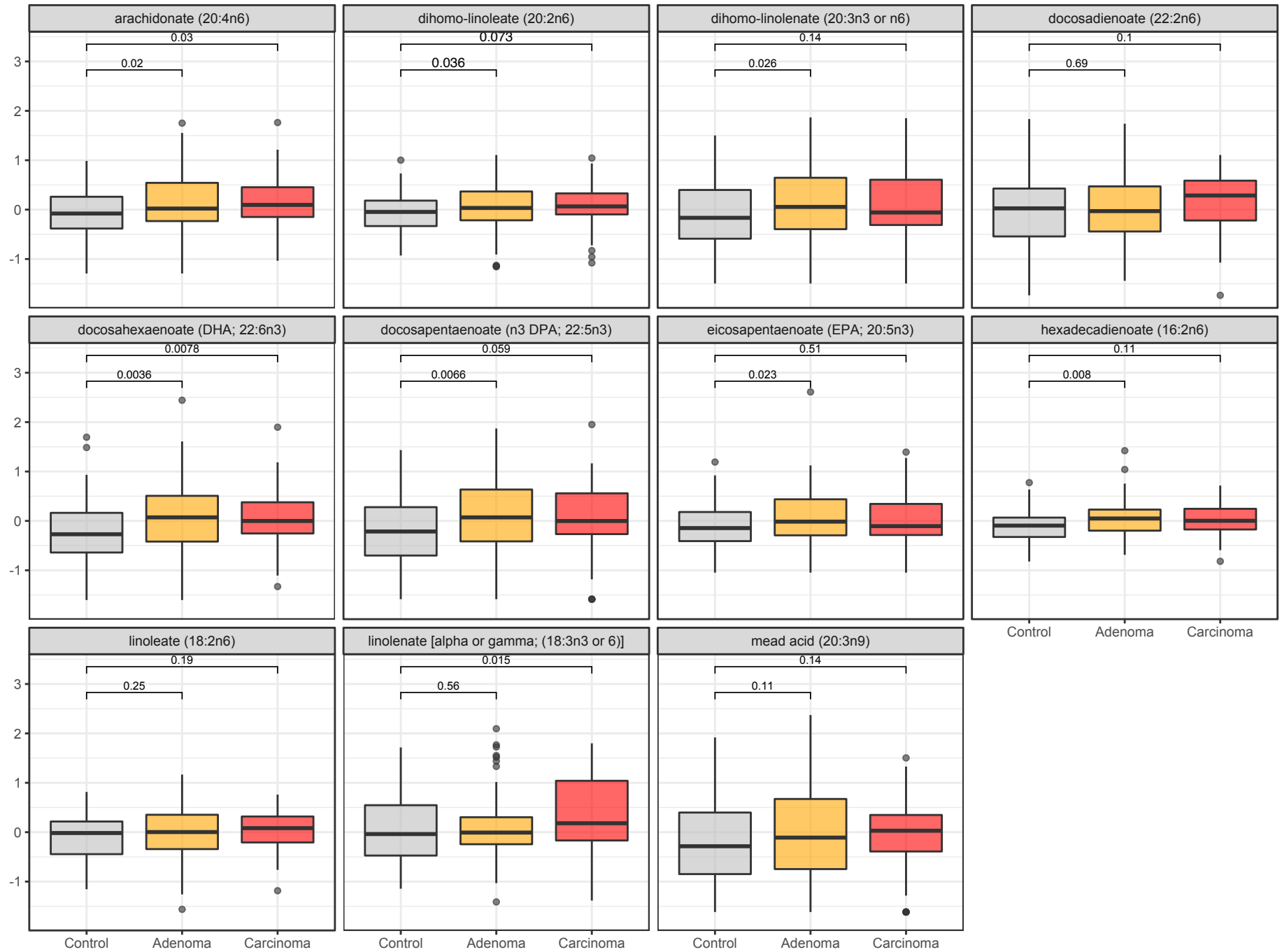
Figure S2



**Figure S2: Specific CRC-associated strains prevalence in GIDER**, Related to Figure 3. Barplots depicting the proportions of subjects (%) with either bft+ *B. fragilis* (A: red) or ClbB+ *E. coli* (B: red) stratified by adenoma morphology (no adenoma, sessile adenoma only, tubular adenoma only, SSA & TA, left-sided TA, and right-sided TA).

Figure S3

LPolyunsaturated Fatty Acid (n3 and n6)



**Figure S3: External validation of predicted microbial metabolites associated tubular adenomas,** Related to Figure 4. Boxplots of specific polyunsaturated fatty acids (PUFA) abundances stratified by the subjects' presence of colonic lesions (ie. control - grey, adenoma - yellow, carcinoma - red), with demonstration of significant uptrend of both n3 and n6 PUFAs with increasing stage of adenoma-carcinoma carcinogenesis in an external reference cohort [S1].

## References

**S1.** Kim, M., Vogtmann, E., Ahlquist, D.A., Devens, M.E., Kisiel, J.B., Taylor, W.R., White, B.A., Hale, V.L., Sung, J., Chia, N., et al. (2020). Fecal Metabolomic Signatures in Colorectal Adenoma Patients Are Associated with Gut Microbiota and Early Events of Colorectal Cancer Pathogenesis. *MBio* 11. [10.1128/mBio.03186-19](https://doi.org/10.1128/mBio.03186-19).