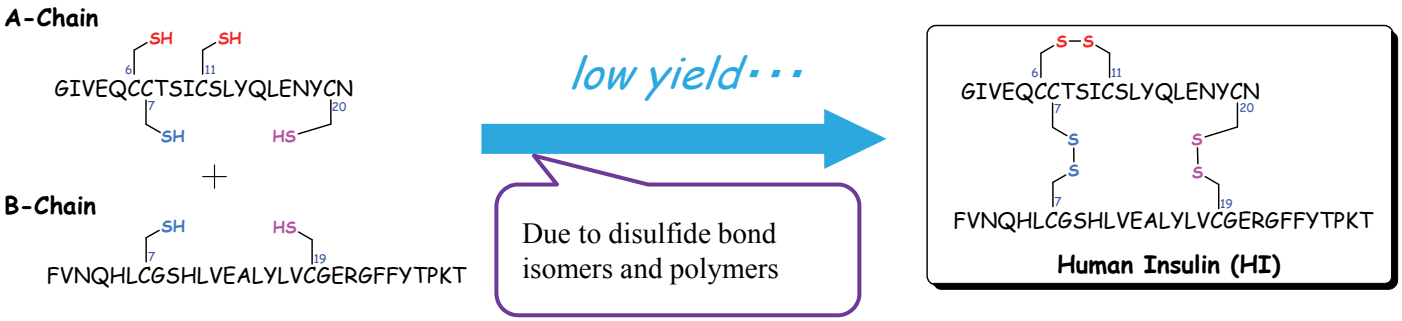
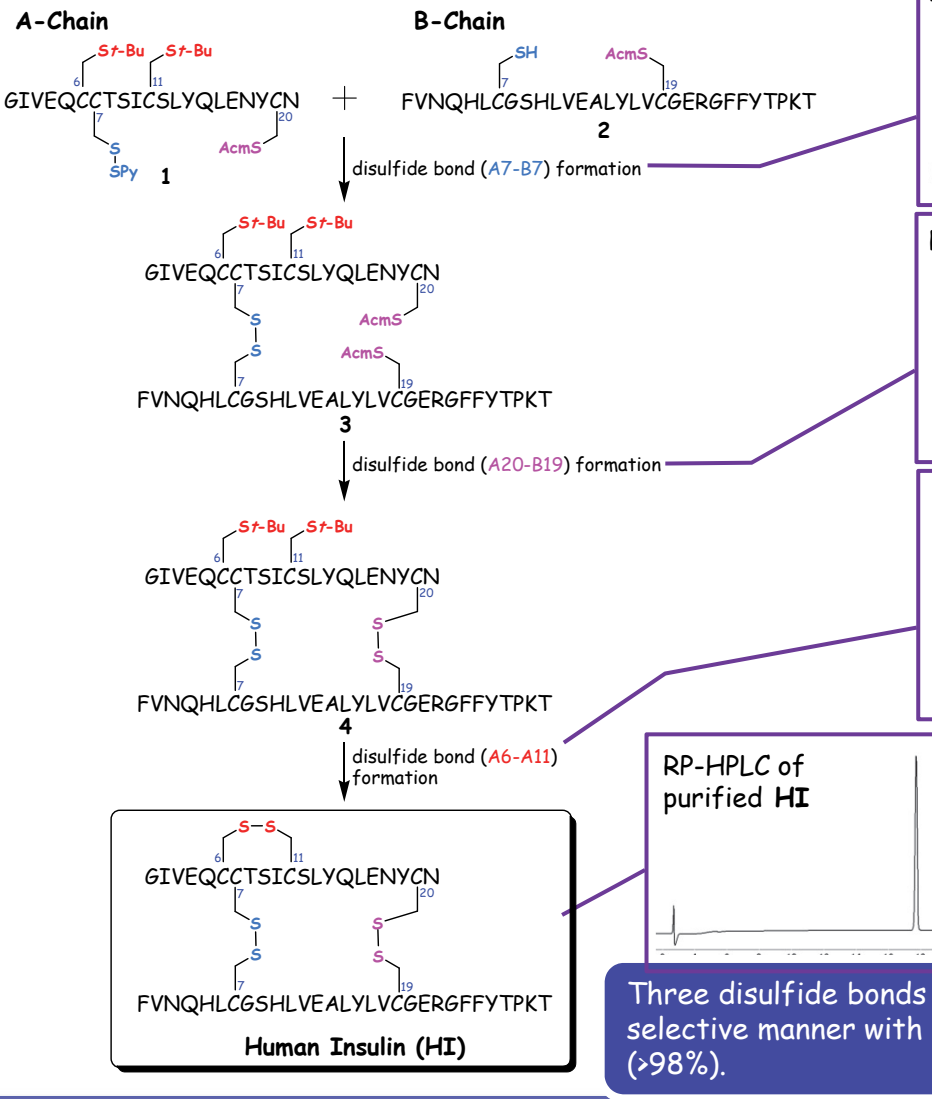
Human Insulin Synthesis

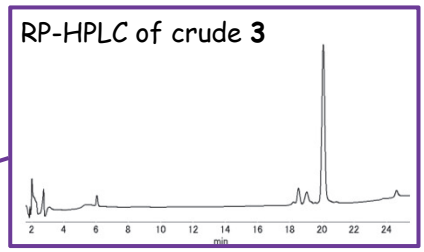
There are many kinds of proteins and bioactive peptides with multiple disulfide bonds. TRC has technology for site-selective disulfide bond formation to synthesize multiple-disulfide peptides with high yield and high purity. Here is an example of synthesis of human insulin (HI) with three disulfide bonds.

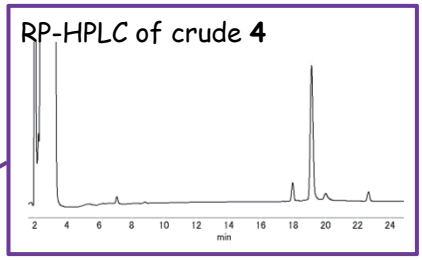
Issues in synthesis of HI

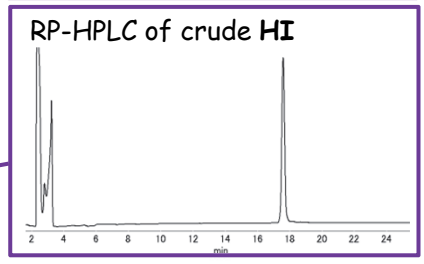


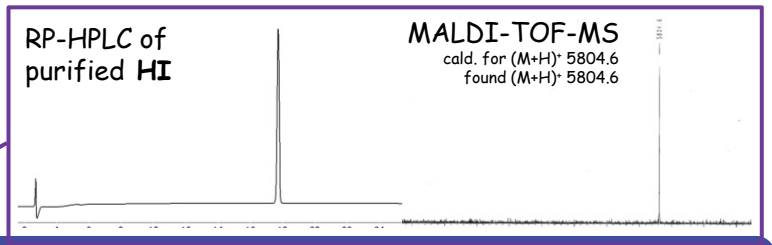
Site-selective disulfide bond formation of HI











Three disulfide bonds in HI were formed in a site-selective manner with high yield (33%) and high purity (>98%).