

Chymotrypsin

(to the tune of "Eight Days a Week" by the Beatles)

The enzyme chymotrypsin, it binds a peptide tight.

A P1 aromatic side chain, fits the S1 site.

Ohhh, bind it, cleave it; bind it, cleave it.

The extended peptide binds as a beta sheet.

Asp polarizes His which plucks a proton from Ser.

The activated nucleophile, attacks a carbonyl that's near.

Ohhh, bind it, cleave it; bind it; cleave it.

The catalytic triad: it can't be beat.

Approximation, holding substrates right.

Acid, base, covalent, catalysis that's out-a-sight.

The tetrahedral intermediate, in the oxyanion hole.

Collapses to the acyl-enzyme, halfway to the goal.

Ohhh, bind it, cleave it; bind it, cleave it.

Deacylation by water, and it's complete.

Approximation, holding substrates right.

Acid, base, covalent, catalysis that's out-a-sight.

The zymogen's activated by a cut before Ile-16-ee

Tertiary contortions, more impressive than Houdini

Ohhh, bind it, cleave it; bind it, cleave it.

This pancreatic protease, it helps us eat...it helps us eat.