

Answer the following questions regarding Thyroxine. Thyroxine is one of two major hormones produced by the thyroid gland. Its role is to increase oxygen consumption by cells and thus influences cell metabolism. An excessive production of thyroxine is called hyperthyroidism and the deficiency is called hypothyroidism.

What is the hybridization of the oxygen indicated? Ignore any influence from resonance.

$sp^3$

What orbitals are used to make the C-I  $\sigma$ -bond ~~within the double bond in the ring~~?

$Csp^2 - Isp^3$

What are the bond angles for the nitrogen indicated?

$109.5^\circ$

What is the geometry of the carbon indicated?

trigonal planar

How many hydrogens are present in this molecule?

11

