The present invention relates to a process for the synthesis of ivabradine of formula (I):

$$H_3C-O$$

$$H_3C-O$$

$$R_1O$$

$$(I),$$

or $3-\{3-\{\{[(7S)-3,4-dimethoxybicyclo[4.2.0]octa-1,3,5-triene-7-yl]methyl\}$ (methyl)amino]pro-pyl $\}-7,8-dimethoxy-1,3,4,5-tetrahydro-2H-3-benzazepin-2-one, addition salts with pharmaceutically acceptable acids, and hydrates thereof.$

The process is characterized in that the compound of formula (VI):

$$H_3CO$$
 OCH_3
 OCH_3
 OCH_3
 OCH_3
 OCH_3

is subjected to a lactamisation reaction in the presence of a coupling agent and a base, in an organic solvent. This process allows of increasing the yield of the end product.

Claims: 28