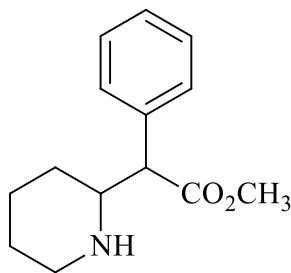


- Methylphenidate, also known as Ritalin, is a psychostimulant drug approved for the treatment of attention-deficit disorder. Identify all stereogenic (chiral) centres in methylphenidate by clearly marking each with an asterisk (*) on the structure below.

methylphenidate



Using one stereogenic centre you have identified, draw the (*R*)-configuration of that centre.



How many stereoisomers are there of methylphenidate? Describe the relationships between these isomers.

Give the products formed when methylphenidate is hydrolysed with 4 M HCl.