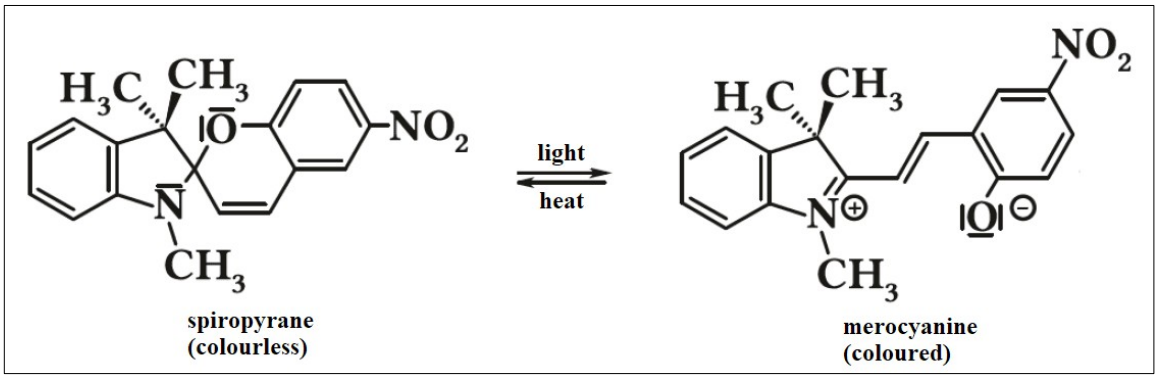
Name: _____ Date: _____

***Solvatochromism (Sek. II/supper secondary level)***

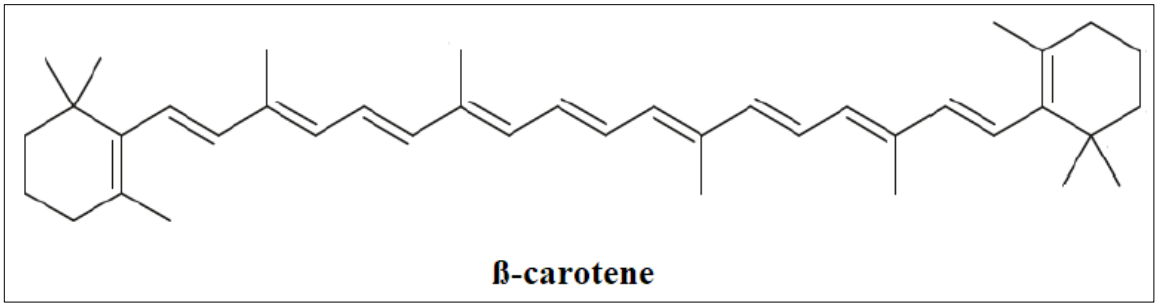
**The solutions of the same substance in different solvents differ in colour**

**<u>Group 1: Structure and colour</u>**

**S1** Mark the chromophore as well as auxochrome(s) and anti-auxochrome(s) in the structural formulae of spiropyrane and merocyanine. Give reasons for the fact that the dissolved spiropyrane is colourless.




**S2** The orange ß-carotene absorbs blue light ($\lambda_{max}$ = 444 nm) and the blue merocyanine absorbs yellow light ($\lambda_{max}$ = 600 nm). Compare the length of the chromophore in the two molecules and deduce the influence of the auxochrome(s) on the light absorption.




**S3** Draw a resonance structure of the given merocyanine zwitterion and assess which of the two resonance structures is more likely to be found in a polar solvent.