

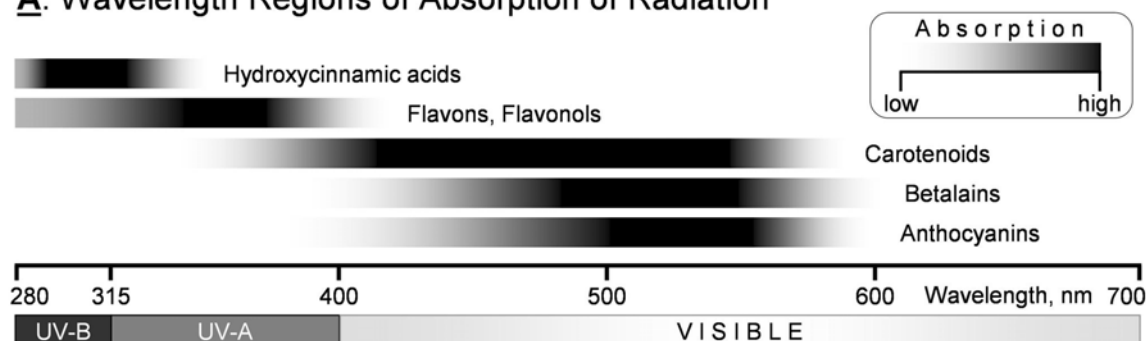
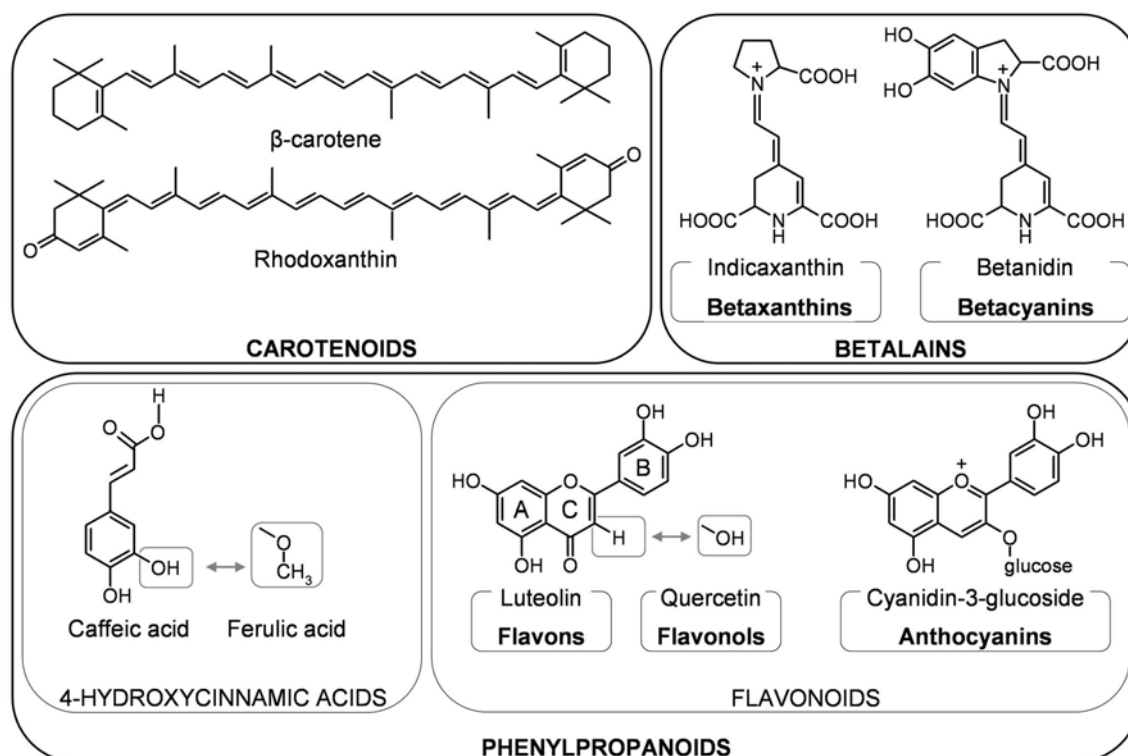
A: Wavelength Regions of Absorption of Radiation**B: Chemical Structures**

Figure 6.3 Schematic representation of absorption regions of the major groups of compounds involved in electronic absorption properties of plant surfaces (a) and chemical structures of representative compounds from these groups (b). For detailed information on surface absorption see Section 6.3 (structures from Bate-Smith, 1962; Isler, 1971; Borriss and Libbert, 1985; Harborne, 1988; Strack and Wray, 1989).

Hydroxycinnamic acids occur covalently bound to epicuticular wax constituents of leaves (Markstädter, 1994; Schmutz *et al.*, 1994; Ruhland and Day, 2000; Liakopoulos *et al.*, 2001), isolated cuticles (Baur *et al.*, 1998) and cell walls (Harris and Hartley, 1976; Strack *et al.*, 1988; Akin, 1995; Lichtenthaler and Schweiger, 1998; MacAdam and Grabber, 2002), but water-soluble hydroxycinnamic acids are also found in vacuoles of epidermal cells (Strack and Sharma, 1985; Schnabl *et al.*, 1989). It has been suggested that insoluble bound hydroxycinnamic acids in