

Hill-Petrucci

Pages 293 & 294 #32,33,36,37

32. a.  $f = 2.61 \times 10^{16} \text{ s}^{-1}$       ultraviolet  
    b.  $f = 3.22 \times 10^9 \text{ s}^{-1}$       microwave  
    c.  $f = 1.55 \times 10^2 \text{ s}^{-1}$       ELF

33.  $4.28 \times 10^{14} \text{ s}^{-1}$

36.  $1.2 \times 10^8$  miles

37. The violet light has greater energy than the red 655 nm light. Energy increases as wavelength decreases and frequency increases.