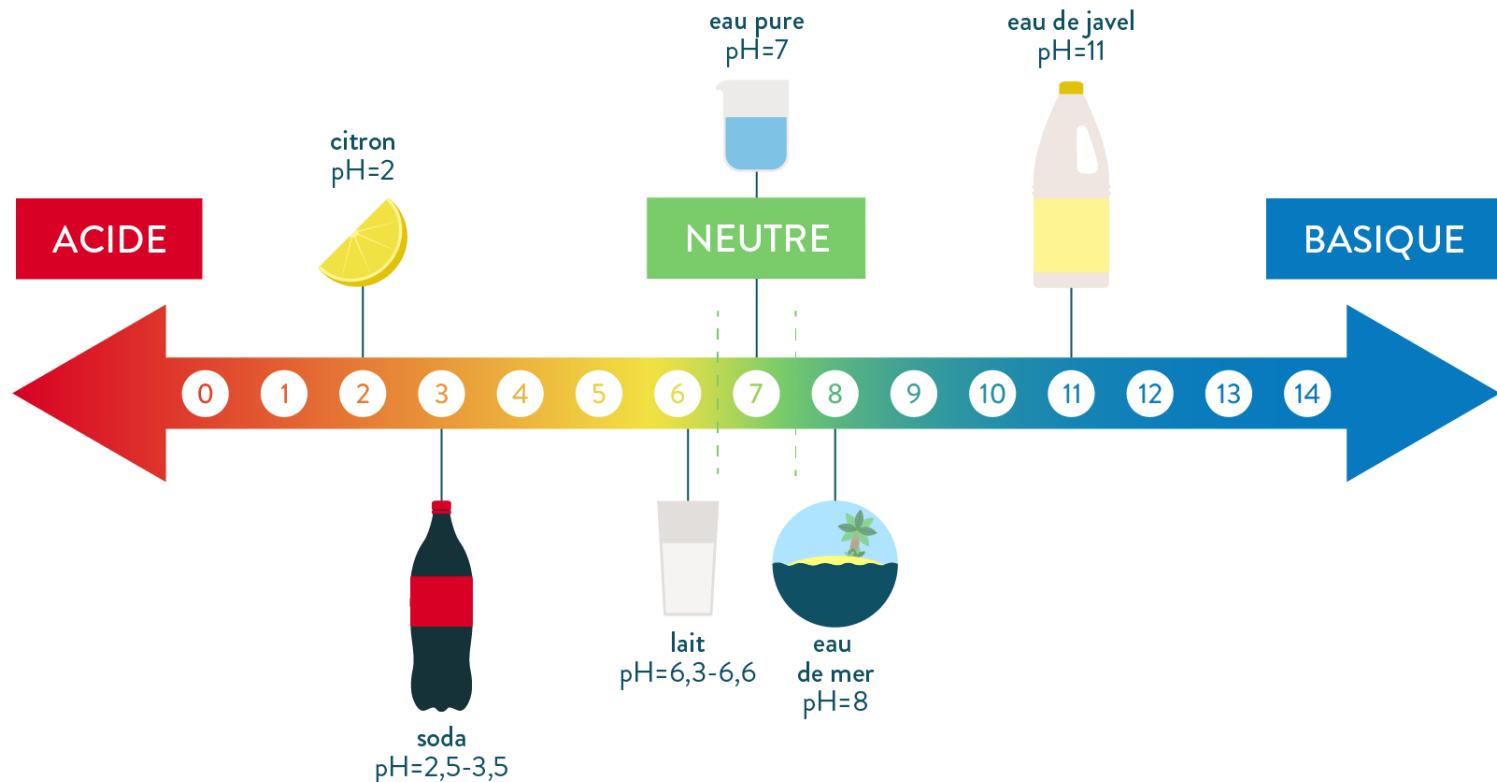


LC4 : Acides et bases

Mathieu Markovitch

Echelle de pH



Acides et bases selon Brönsted

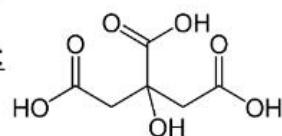
Solutions acides



Acide éthanoïque
 CH_3COOH



Acide citrique :



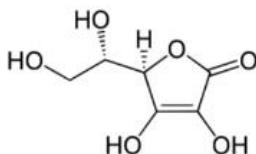
Solutions basiques



Base : hydroxyde HO^-



Acide ascorbique :

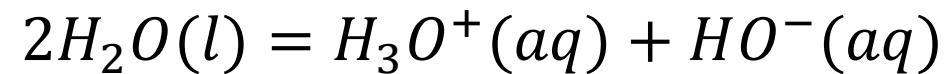


Cas de l'eau

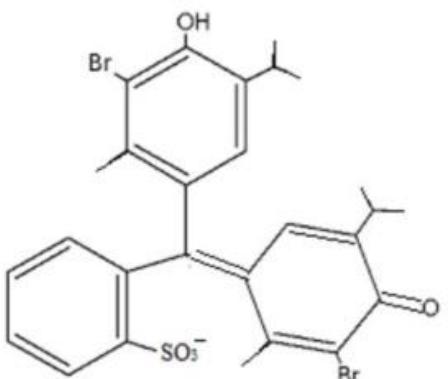


Acide H_2O/HO^-

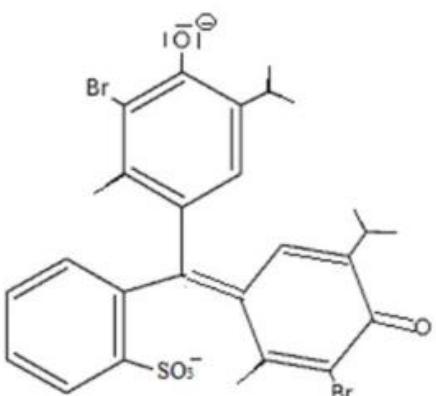
H_3O^+/H_2O Base



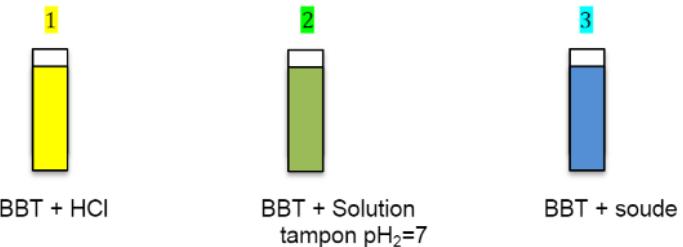
Le BBT



« HBBT⁻ », jaune, milieu acide



« BBT²⁻ », bleu, milieu basique



C = concentration de BBT introduite (identique pour les 3 solutions)

Dans 1: [BBTH]₁ ≈ C ([BBT⁻] << [BBTH])

Dans 2: [BBT⁻]₂ + [BBTH]₂ = C

Dans 3: [BBT⁻]₃ ≈ C ([BBTH] << [BBT⁻])

$$A_1 = \varepsilon_{BBTH,\lambda} \cdot l \cdot C$$

$$A_2 = \varepsilon_{BBT^-, \lambda} \cdot l \cdot [BBT^-]_2 + \varepsilon_{BBTH, \lambda} \cdot l \cdot [BBTH]_2$$

$$A_3 = \varepsilon_{BBT^-, \lambda} \cdot l \cdot C$$

$$pK_a = pH_2 - \log \frac{[BBT^-]_2}{[BBTH]_2} = pH_2 - \log \frac{A_3 - A_2}{A_1 - A_3}$$

Conclusion

