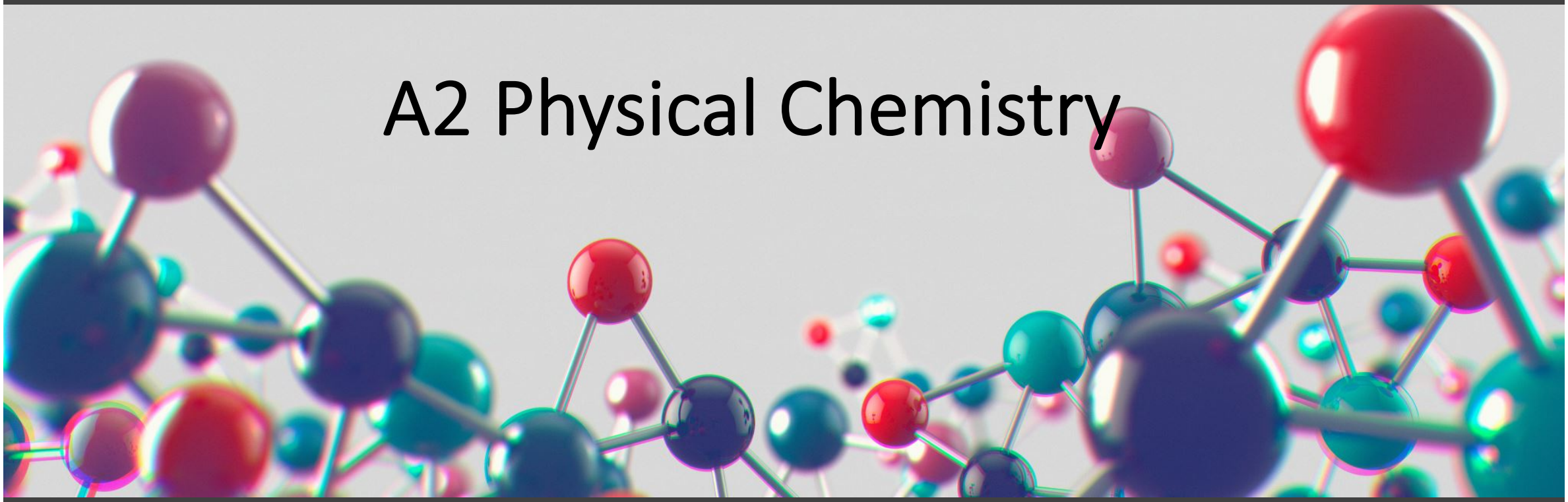

A2 Physical Chemistry

Equilibrium Constant for Gaseous Reactions

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The Equilibrium Constant for Gaseous Reactions

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$$x_A = \frac{\text{Number of moles of gas A}}{\text{Number of moles of A + B + C}}$$

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P_A = Mole fraction of A x Total Pressure

K_p in homogeneous equilibria –everything is in the gaseous phase

$$3H_{2(g)} + N_{2(g)} \rightleftharpoons 2NH_{3(g)}$$

$$K_p = \frac{(P_{NH_3})^2}{(P_{H_2})^3 \times (P_{N_2})}$$

K_p in heterogenous equilibria –solids and liquids are not included

$$CaCO_{3(s)} \rightleftharpoons CaO_{(s)} + CO_{2(g)}$$

$$K_p = P_{CO_{2(g)}}$$

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