



Under standard concentration conditions on a surface composed of metal Z:

$$\alpha_{\text{red, cat}} = 0.5; i_0 = 10^{-9} \text{ A m}^{-2}$$

The value of i_0 is proportional to $[\text{H}^+]$.

(b) (5 marks) On the basis of the Evans diagram that you constructed in part (a), is it likely that metal Z could be used to provide sacrificial protection to iron at pH 3 and 298.15 K? Explain your answer. (50–100 words.)

Remember to send in your Evans diagram with your assignment, and to include a record of all the calculations you have made in order to construct the diagram.