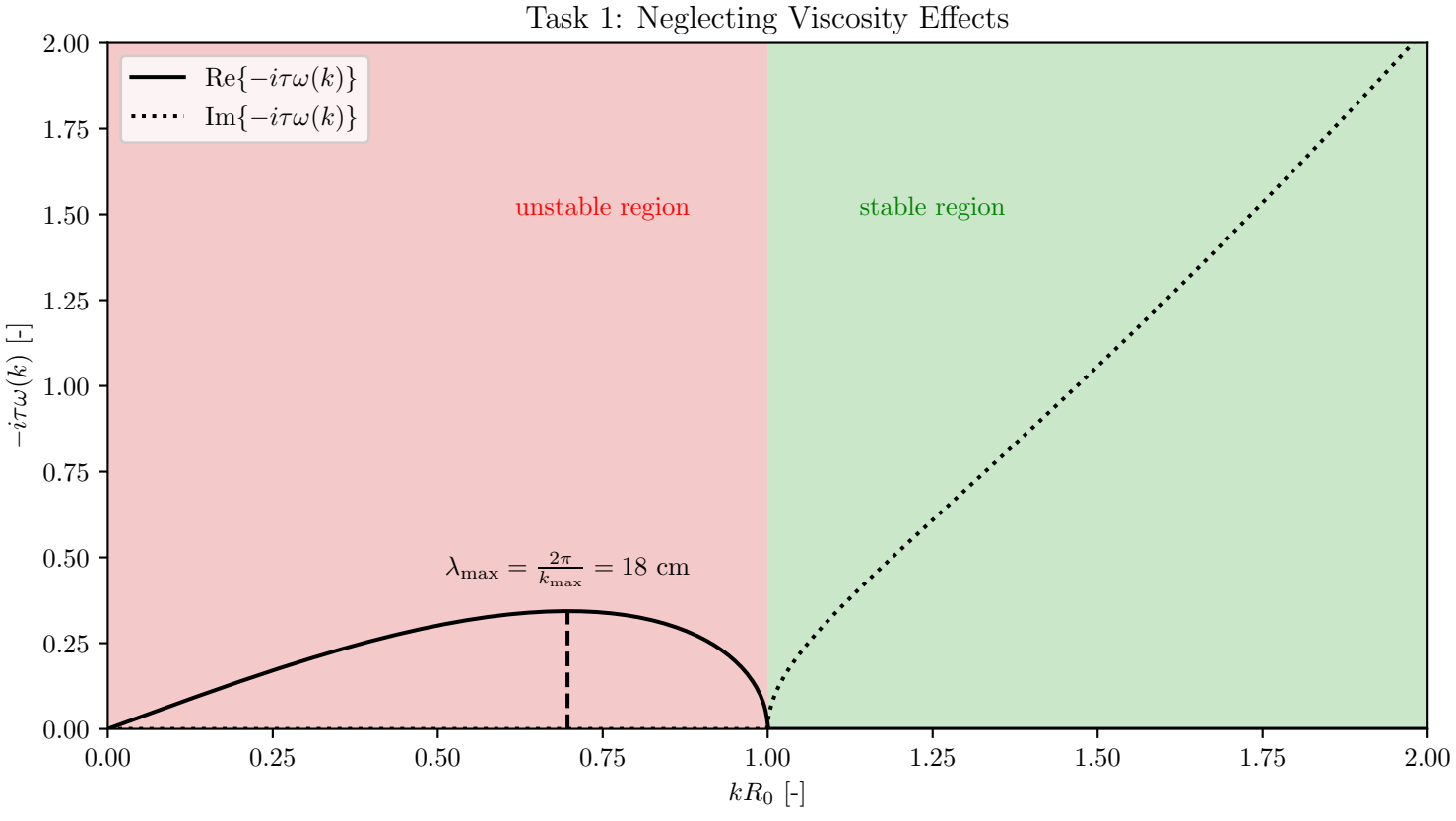
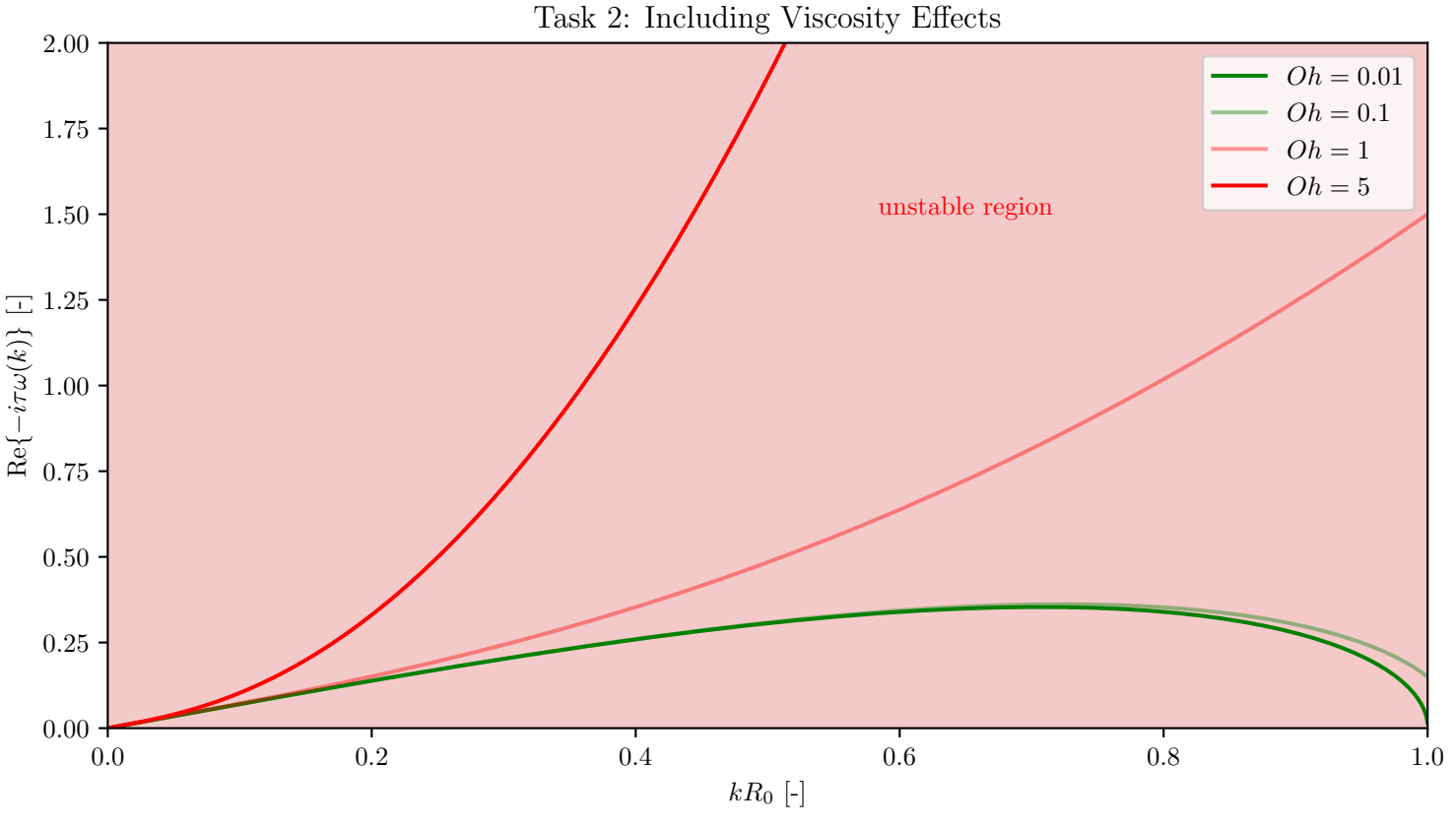
Assignment 5





In the limit of low Oh numbers (where capillarity effects dominate and viscosity is negligible), we see that the real part of the plotted expression converges to the one of the previous task, as it is expected. Furthermore, the higher the Oh number (i.e. high viscosity fluids), the stronger the destabilization rate, which also agrees with experimental evidence. Moreover, the curve changes from a concave (with a maximum) to a convex (unlimited growth) curvature with increasing Oh numbers and thus at high Oh numbers, no stable flow can establish!