



Fig. 7 – Sensitivity analysis of microbial attachment to detachment ratio (k_a/k_d) values of 6.40, 32.02 and 64.04 onto porous rock surface using Microbe 3, $d_x = 2.88 \times 10^{-2} \text{ h}^{-1}$ and $t_{\text{pulse}} = 57.6 \text{ h}$ within sandstone core of intermediate heterogeneity ($a_\beta = -1.7$, $\beta_{\min} = 0.75$) during MEOR under varying temperature, salinity and pH conditions: temporal distributions of (a) microbial concentration at $x = 0.6 \text{ m}$ from the influent point; (b) total volume fraction of microbes attached reversibly and irreversibly onto sandstone rock surface at $x = 0.004 \text{ m}$; (c) effective porosity of the sandstone rock core at $x = 0.004 \text{ m}$; (d) intrinsic or absolute permeability of the sandstone core at $x = 0.004 \text{ m}$; and (e) *in-Situ* produced biosurfactant concentration at $x = 0.8 \text{ m}$.