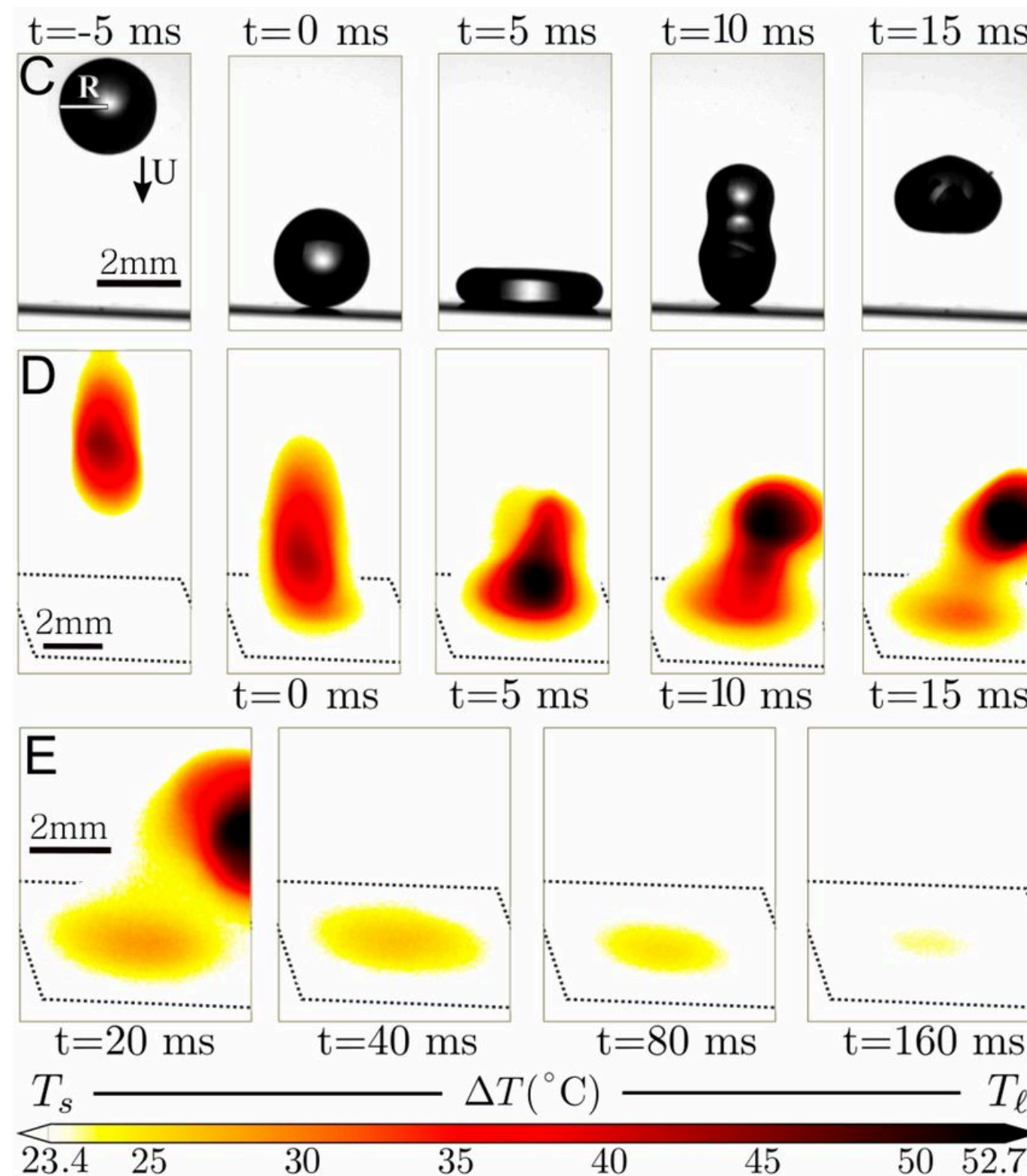


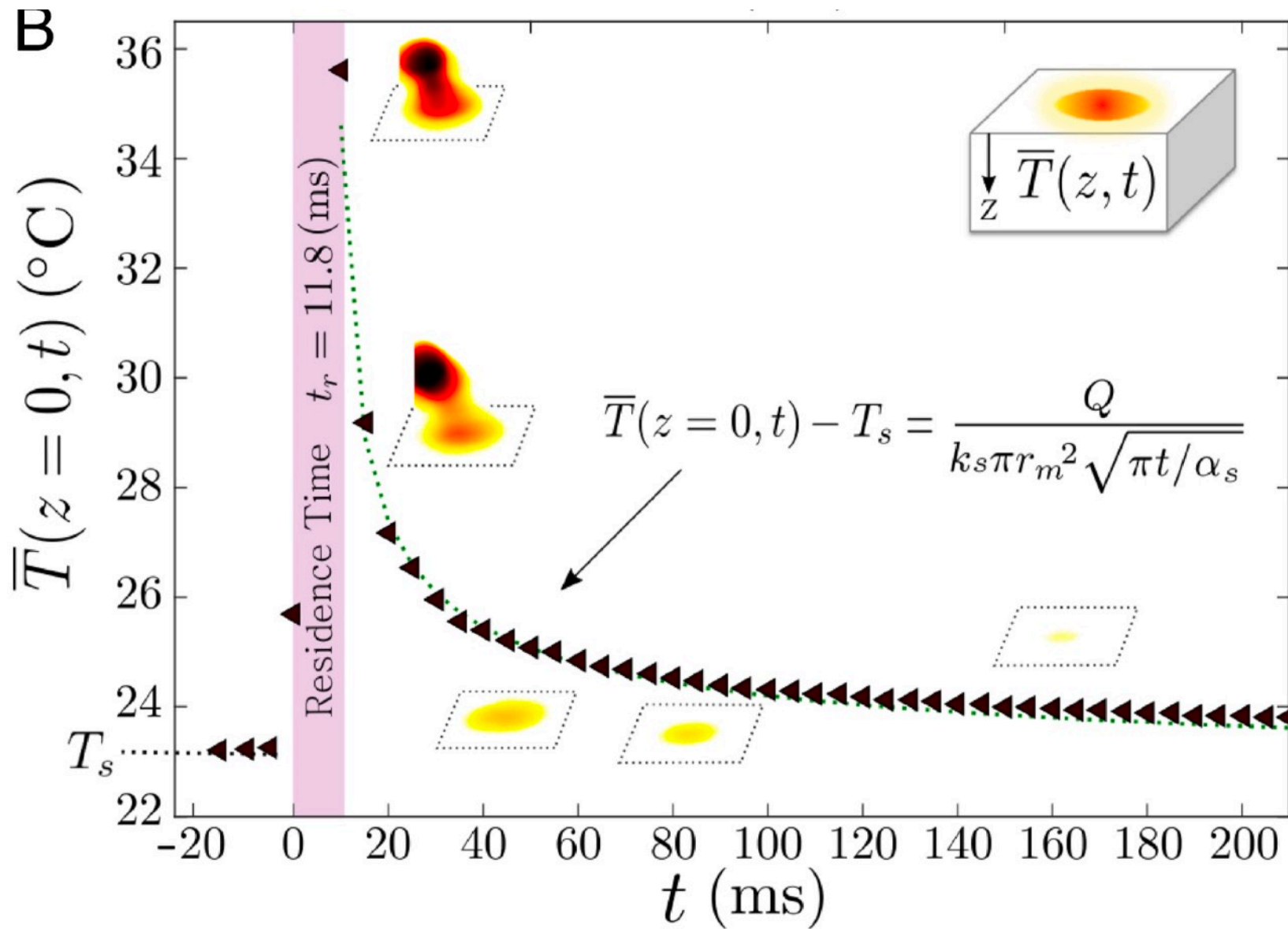
Singing in the rain problem



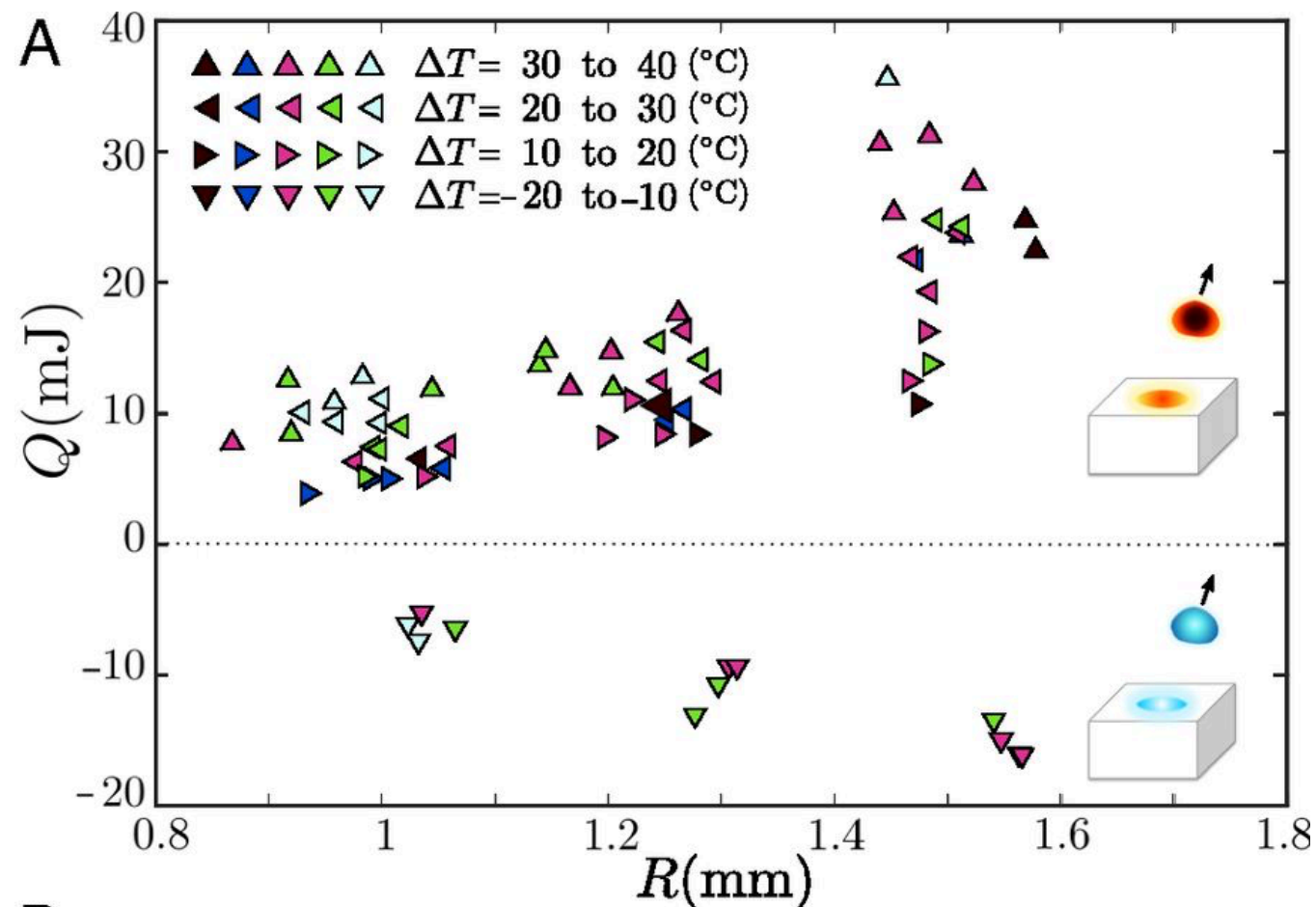
What is the cooling rate of
a superhydrophobic surface
submitted to rain ?



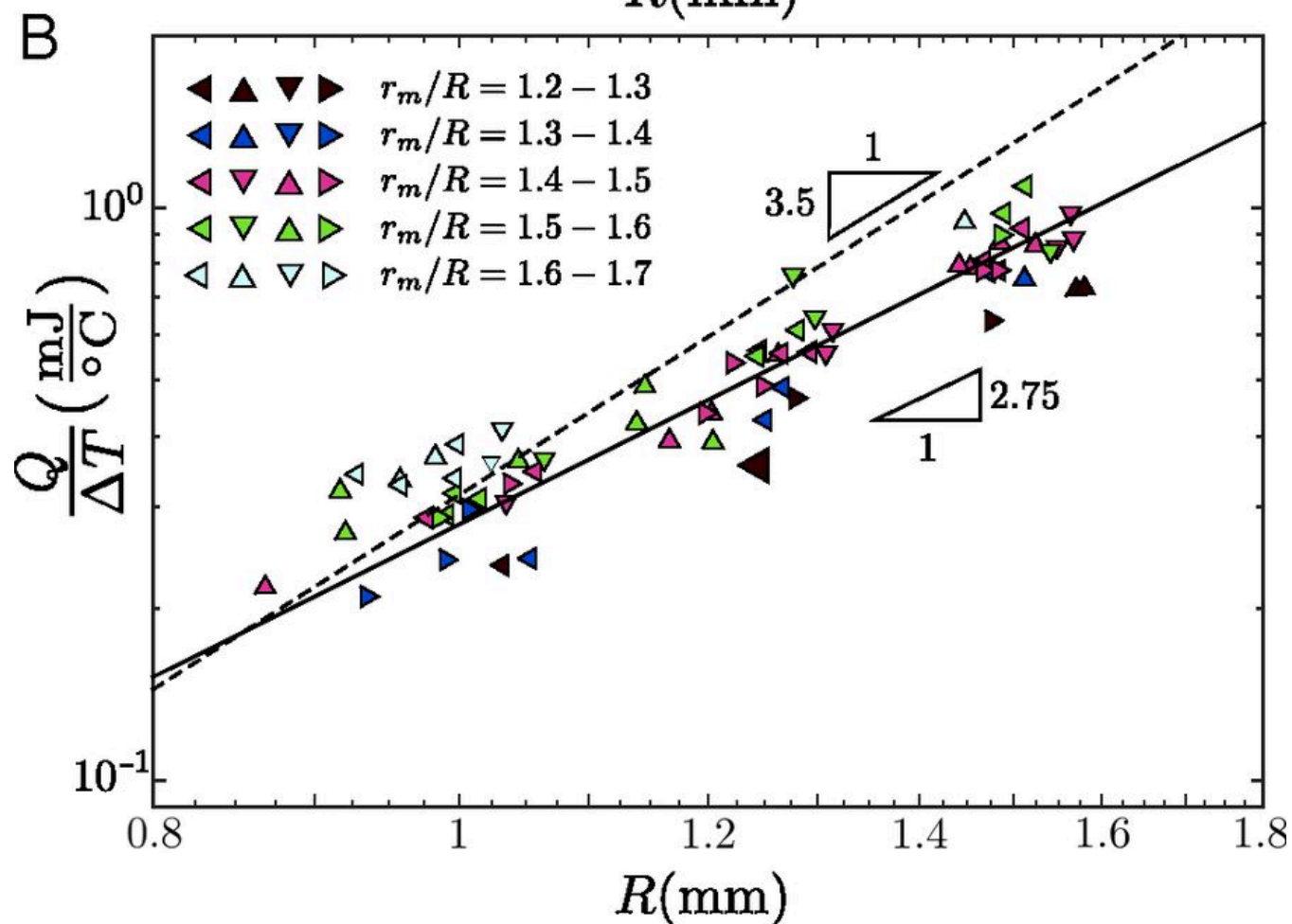
Heat exchange between a bouncing drop and a superhydrophobic substrate, S. Shiri and J. C. Bird, *PNAS*, **114**, 6930 (2017)



Using scaling arguments, derive the time evolution of temperature on the substrate after the rebound of the drop



Derive a scaling relation between Q the amount of heat transferred and the radius R of the impacting drop.



The contact time scales as $(\rho R^3/\gamma)^{1/2}$