

## Video captions

### Figure\_1\_HSV.avi

High speed video of the complete freezing process of a droplet at  $-20^{\circ}\text{C}$  in stagnant air. The frames of the video were cropped to center the droplet and thus the originally fixed background is moving. Internal experiment ID 152

### Figure\_1\_IRV.avi

Infrared video of the complete freezing process of a droplet at  $-20^{\circ}\text{C}$  in stagnant air. The time between two frames is 6.97 ms. This is the recording of the same droplet as in the video "Figure\_1\_HSV".

### Figure\_5\_PRE.avi

Video showing evidence for a pressure release event (PRE) at  $t = 3403.8$  ms. The droplet cracks open on the right and the shell seals back together afterwards. The frames of the video were cropped to center the droplet and thus the originally fixed background is moving. Internal experiment ID 163

### Figure\_10\_stratified.mp4

Video fragments of a droplet freezing in stagnant air at  $-5^{\circ}\text{C}$  from top downwards without formation of a closed ice shell. The frames of the video were cropped to center the droplet and thus the originally fixed background is moving. Internal experiment ID 127

### Figure\_11\_closed\_shell.avi

Video of a droplet freezing in stagnant air at  $-5^{\circ}\text{C}$  with formation of a closed ice shell and shattering. The frames of the video were cropped to center the droplet and thus the originally fixed background is moving. Internal experiment ID 131