

42. We solve Eq. 36-34 with  $n_2 = 1.33$  and  $\lambda = 600 \text{ nm}$  for  $m = 1, 2, 3, \dots$ :

$$L = 113 \text{ nm}, 338 \text{ nm}, 564 \text{ nm}, 789 \text{ nm}, \dots$$

And, we similarly solve Eq. 36-35 with the same  $n_2$  and  $\lambda = 450 \text{ nm}$ :

$$L = 0, 169 \text{ nm}, 338 \text{ nm}, 508 \text{ nm}, 677 \text{ nm}, \dots$$

The lowest number these lists have in common is  $L = 338 \text{ nm}$ .