Example Answers

International Master's Programs of Chemical Engineering in the Graduate School of Engineering, Kyushu University (Academic Year from October, 2025)

Subject：Basic Chemistry（1/2 sheet）

1

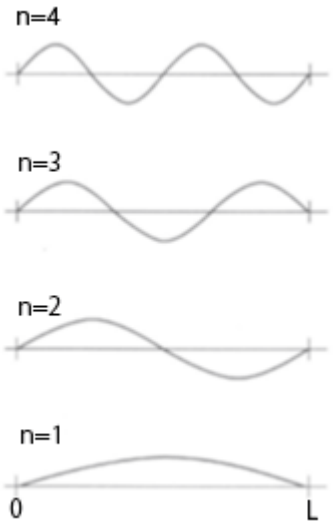
（1.1）

$$\varphi_n = \sqrt{\frac{2}{L}} \sin\left(\frac{n\pi}{L}x\right)$$

(1.2)

$$E_n = \frac{nn^2\pi^2\hbar^2}{2mL^2}$$

(1.3)

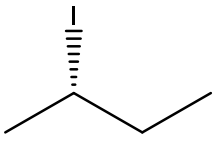


(1.4)

$$\int_0^{\sqrt{L}} \varphi_1\varphi_2 \mathrm{d}x = \int_0^L \left(\sqrt{\frac{2}{L}} \sin\left(\frac{\pi x}{L}\right)\right)\left(\sqrt{\frac{2}{L}} \sin\left(\frac{\pi x}{L}\right)\right)\mathrm{d}x = 0$$

2.

(2.1)



(2.2)

1-bromo-2,2-dimethylpropane

(2.3)

Slower (Slow)

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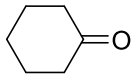
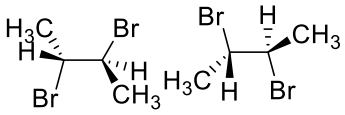
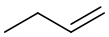
3.

(3.1) 

(3.2) 

(3.3) 

(3.4) 

(3.5)