

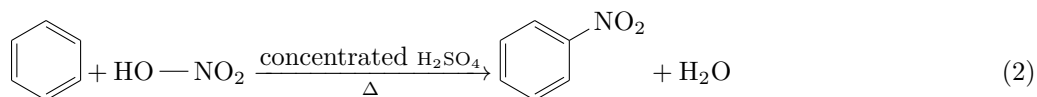
**Problem 1 Score:** \_\_\_\_\_. Show that this L<sup>A</sup>T<sub>E</sub>X template support following functions:

- (1) Mathematical formulas;
- (2) Chemistry formulas.

**Proof:** (1) In three-dimensional space, the Schrödinger equation of a particle in a potential  $V(\mathbf{r}, t)$  is

$$i\hbar \frac{\partial}{\partial t} |\psi(\mathbf{r}, t)\rangle = -\frac{\hbar^2}{2m} \nabla^2 |\psi(\mathbf{r}, t)\rangle + V(\mathbf{r}, t) |\psi(\mathbf{r}, t)\rangle. \quad (1)$$

- (2) Heating and using concentrated sulfuric acid as catalyst, benzene can react with nitric acid to produce nitrobenzene:



□

**Problem 2 Score:** \_\_\_\_\_. Conduct following operation:

- (1) Insert figures:
  - (a) single figure, setting its position mandatorily;
  - (b) two subfigures;
- (2) Insert such a table:
  - ▷ with merged multi-row and multi-column cells;
  - ▷ three-line table;
  - ▷ cross-page;
- (3) Insert code;
- (4) Cite a reference.

**Solution:** (1) (a) As figure 1.

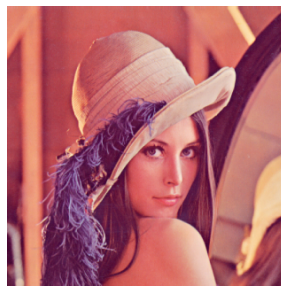


Figure 1: Lenna

- (b) As the subfigures 2(a) and 2(b) in 2.



(a) lenna1

(b) lenna2

Figure 2: Lenna2

- (2) As table 1.

Table 1: Exemplary table

merged multi-row cell	merged muti-column cell		merged muti-column cell	
	Column 1	Column 2	Column a	Column b
If	you	shed	tears	when
you	missed	the	sun	
you	also	miss	the	stars

(3) Code are shown as following:

```
1 program_main
2   _ _ _ _ implicit_none
3
4   _ _ _ _ write (*,*) _ 'hello _ world '
5 end_ program_main
```

(4) This book [1] provides a good introduction to quantum mechanics.

□

## References

[1] Claude Cohen-Tannoudji, Bernard Diu, Frank Laloe, and Bernard Dui. Quantum mechanics (2 vol. set), 2006.