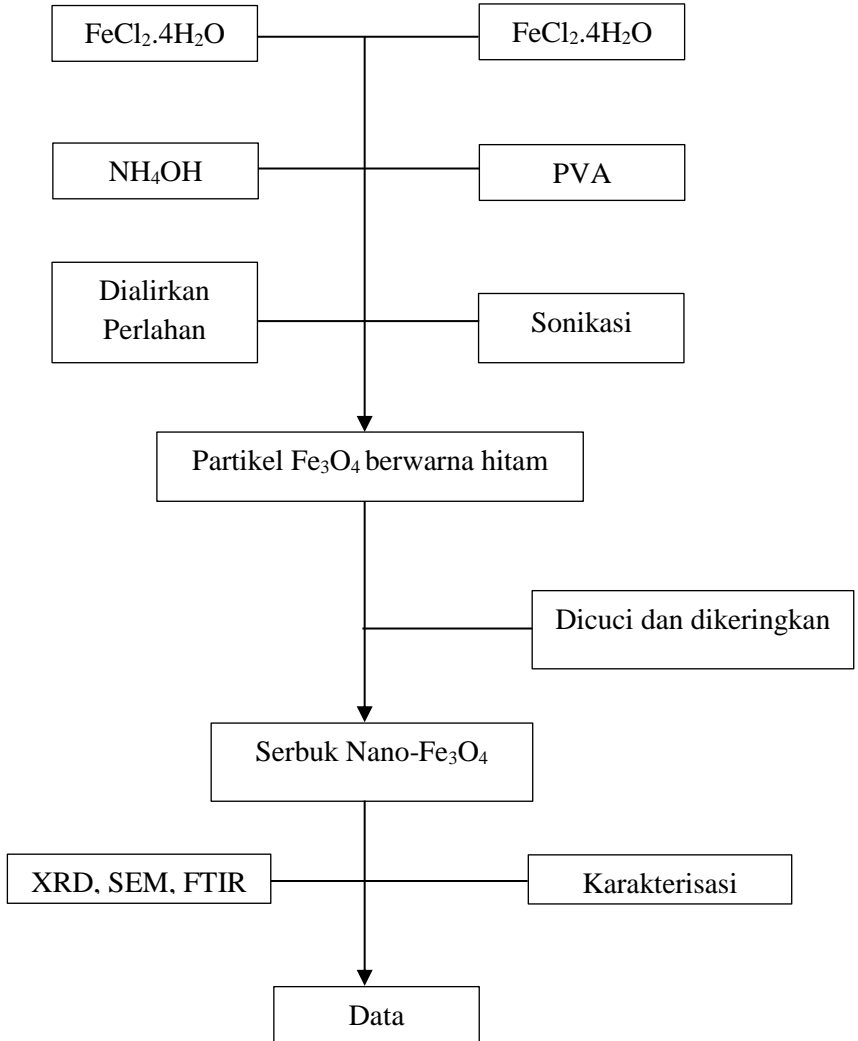


## LAMPIRAN

### LAMPIRAN A

#### 1. Tahapan Penelitian



## 2. Perhitungan

### a. Pembuatan Larutan $\text{NH}_4\text{OH}$ 2 M sebanyak 250 mL

$$\text{Berat terkandung} = \frac{25}{100} \frac{\text{v}}{\text{v}} \times 905 \frac{\text{g}}{\text{v}} = 226,25 \frac{\text{g}}{\text{v}}$$

$$[\text{NH}_3 \cdot \text{H}_2\text{O}] = \frac{\text{berat terkandung}}{\text{Mr}} = \frac{226,25 \frac{\text{g}}{\text{v}}}{17 \frac{\text{g}}{\text{mol}}} = 13,30 \text{ M}$$

$$\text{Volume NH}_3 = \frac{2 \text{ M} \times 250 \text{ mL}}{13,3 \text{ M}} = 37,6 \text{ mL}$$

### b. Pembuatan Larutan PVA 5, 7, dan 9 gr dalam 100 mL

Konsentrasi PVA 5 g dalam 100 mL

$$\begin{aligned} [\text{PVA } 5] &= \frac{5000 \text{ mg}}{0,1 \text{ L}} = 50.000 \text{ ppm} \\ &= \frac{50.000}{35.500} = 1,40 \text{ M} \end{aligned}$$

$$\begin{aligned} [\text{PVA } 7] &= \frac{7000 \text{ mg}}{0,1 \text{ L}} = 70.000 \text{ ppm} \\ &= \frac{70.000}{35.500} = 1,97 \text{ M} \end{aligned}$$

$$[\text{PVA } 9] = \frac{9000 \text{ mg}}{0,1 \text{ L}} = 90.000 \text{ ppm}$$

$$= \frac{90.000}{35.500} = 2,5 M$$

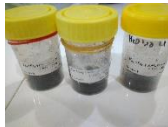
**c. Pembuatan Larutan Fe<sub>3</sub>O<sub>4</sub> Rasio Mol Fe<sup>2+</sup>:Fe<sup>3+</sup> (1:2)**

$$\begin{aligned} \text{Massa FeCl}_2 \cdot 4\text{H}_2\text{O} &= \text{mol Fe}^{2+} \times \text{Mr FeCl}_2 \cdot 4\text{H}_2\text{O} \\ &= 0,000629 \text{ mol} \times \frac{198,81 \text{ gram FeCl}_2 \cdot 4\text{H}_2\text{O}}{1 \text{ mol FeCl}_2 \cdot 4\text{H}_2\text{O}} \\ &= 0,125 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{Massa FeCl}_3 \cdot 6\text{H}_2\text{O} &= \text{mol Fe}^{3+} \times \text{Mr FeCl}_3 \cdot 6\text{H}_2\text{O} \\ &= 0,00129 \text{ mol} \times \frac{270,3 \text{ gram FeCl}_3 \cdot 6\text{H}_2\text{O}}{1 \text{ mol FeCl}_3 \cdot 6\text{H}_2\text{O}} \\ &= 0,35 \text{ g} \end{aligned}$$

**3. Hasil sintesis Fe<sub>3</sub>O<sub>4</sub>-PVA**

**3.1 Nanopartikel Fe<sub>3</sub>O<sub>4</sub>-PVA (5,7,9) % 30 menit**



**3.2 Nanopartikel Fe<sub>3</sub>O<sub>4</sub>-PVA (5,7,9) % 60 menit**



**3.3 Nanopartikel Fe<sub>3</sub>O<sub>4</sub>-PVA (5,7,9) % 120 menit**

