

PAR Assay

PAR Stock Solution:

8.5mL 6M Urea
100 μ L 1M KOH
1ml 0.25mM PAR

To make Urea:

RMM = 60.06 gmol⁻¹

$$n = 6\text{M} \times 25\text{mL} / 1000 = 0.15 \text{ moles}$$

$$m = 0.15 \text{ moles} \times 60.06 \text{ gmol}^{-1} = \mathbf{9.009 \text{ g}}$$

- Weigh 9g of Urea
- Dissolve in 25mL pure (Milli-Q) water
- Transfer to labelled bottle

To make the PAR:

RMM = 215.21 gmol⁻¹

$$n = 0.5 \times 10^{-3} \times 25 \text{ mL} / 1000 = 1.25 \times 10^{-5} \text{ moles}$$

$$m = 1.25 \times 10^{-5} \times 215.21 = \mathbf{0.0027\text{g}}$$

- Make sure that the 0.5mM stock solution is well mixed
- Sonicate if necessary
- Pipette 0.5mL PAR into an Eppendorf tube and make up to 1mL with water. This is now 1mL of 0.25mM PAR.

To make KOH:

RMM = 54.11 gmol⁻¹

$$n = 1 \times 5 \text{ mL} / 1000 = 5 \times 10^{-3} \text{ moles}$$

$$m = 5 \times 10^{-3} \times 54.11 = \mathbf{0.271\text{g}}$$

Assay:

- Mix the urea, KOH and PAR and leave for ½ hour.
- Take 450 μ L of PAR in an Eppendorf and add 50 μ L of sample
- Leave the samples/assay for ½ hour
- Zinc presence is indicated by a pink colour