

COMPARATIVE ANALYSIS OF PIGMENTS IN DIFFERENT MARINE MACROALGAE

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INTRODUCTION

Macroalgae represent an important group of marine organisms, capable of biosynthesizing various natural compounds, including pigments. In this study, the concentrations of chlorophyll *a*, chlorophyll *b*, fucoxanthin and astaxanthin were analyzed in three different macroalgal species:



**GREEN ALGAE
(CHLOROPHYTA)**
Ulva lactuca

**BROWN ALGAE
(PHAEOPHYTA)**
Fucus virsoides

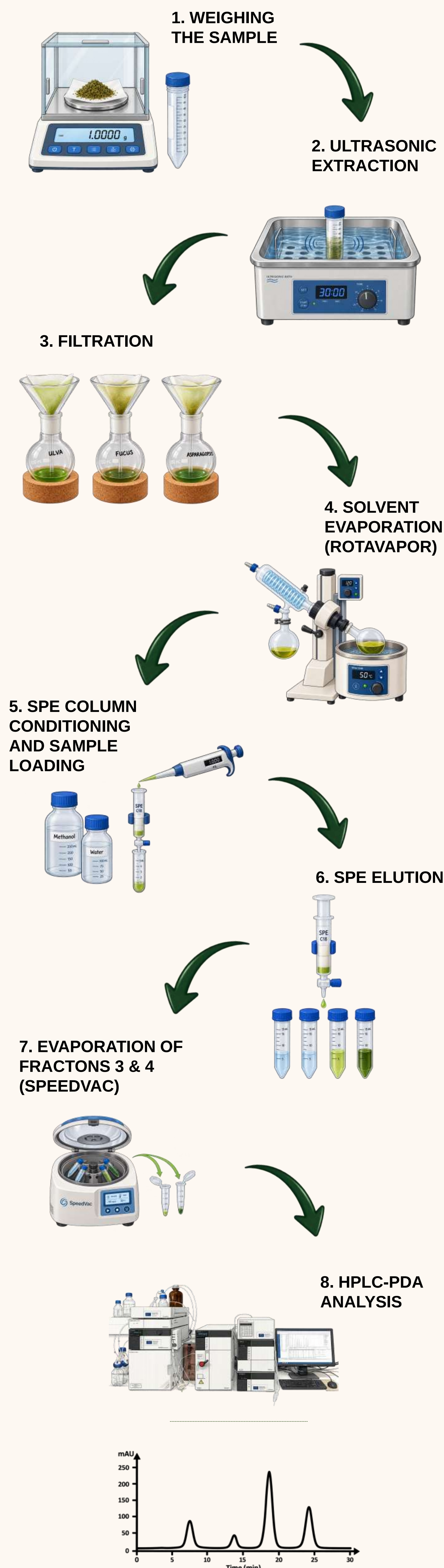


**RED ALGAE
(RHODOPHYTA)**
Asparagopsis taxiformis



These pigments play essential role in photosynthesis and photoprotection, but also possess antioxidant, anti-inflammatory, and other bioactive properties, making macroalgae a promising natural source of compounds for the food, cosmetic, and pharmaceutical industries.

METHODOLOGY



RESULTS

Ulva lactuca

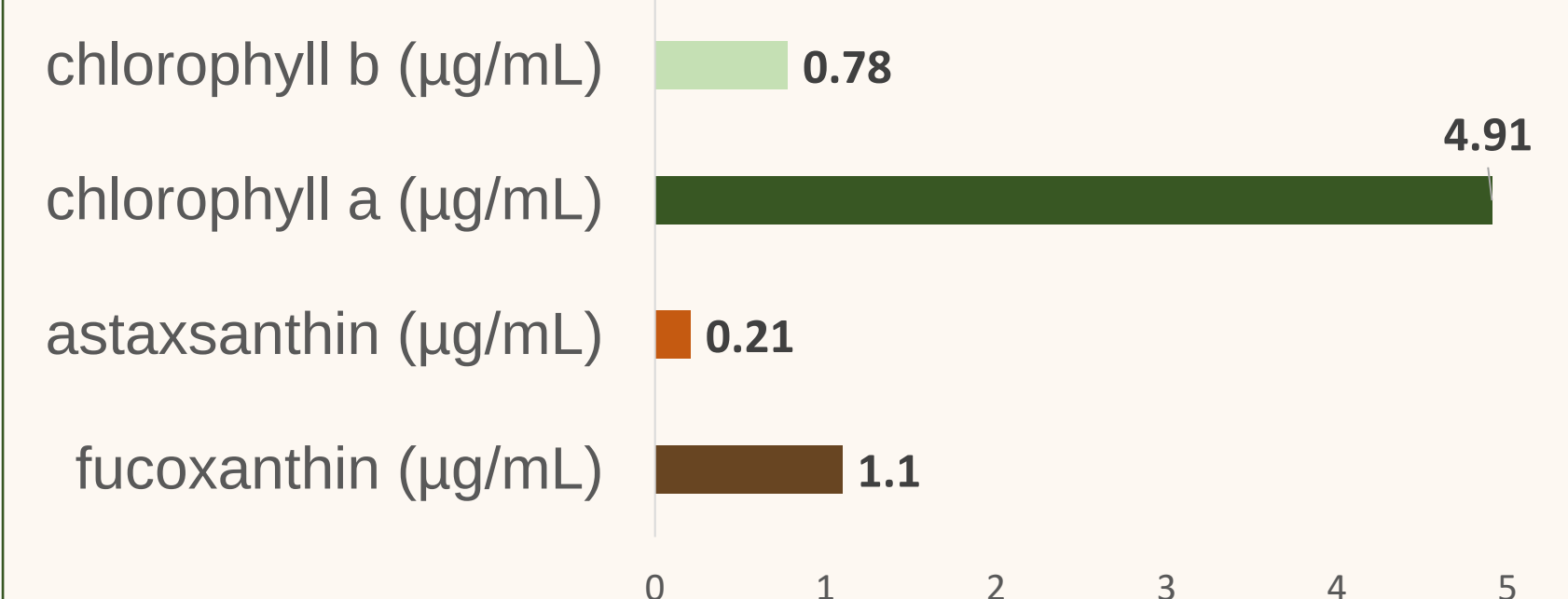


Figure 1 Pigment content in *Ulva lactuca*

Fucus virsoides

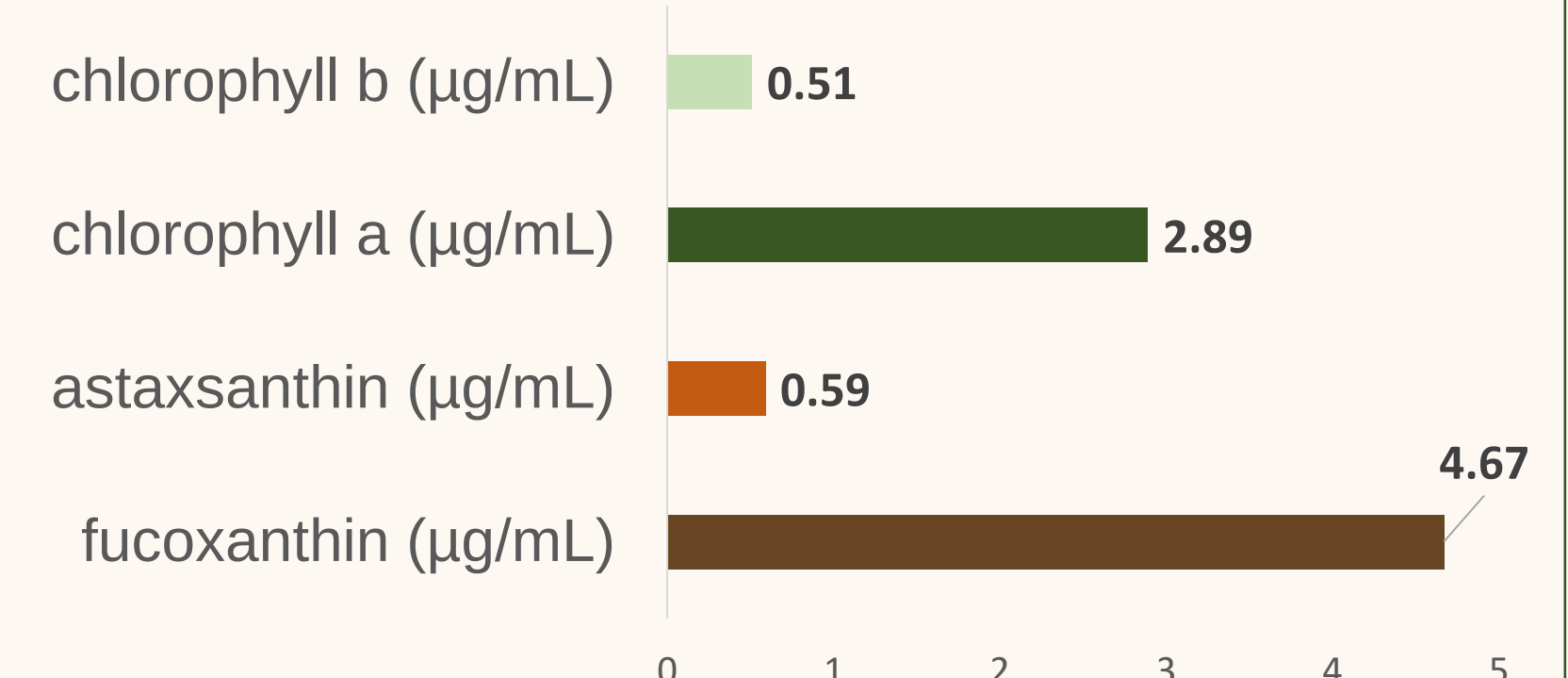


Figure 2 Pigment content in *Fucus virsoides*

Asparagopsis taxiformis

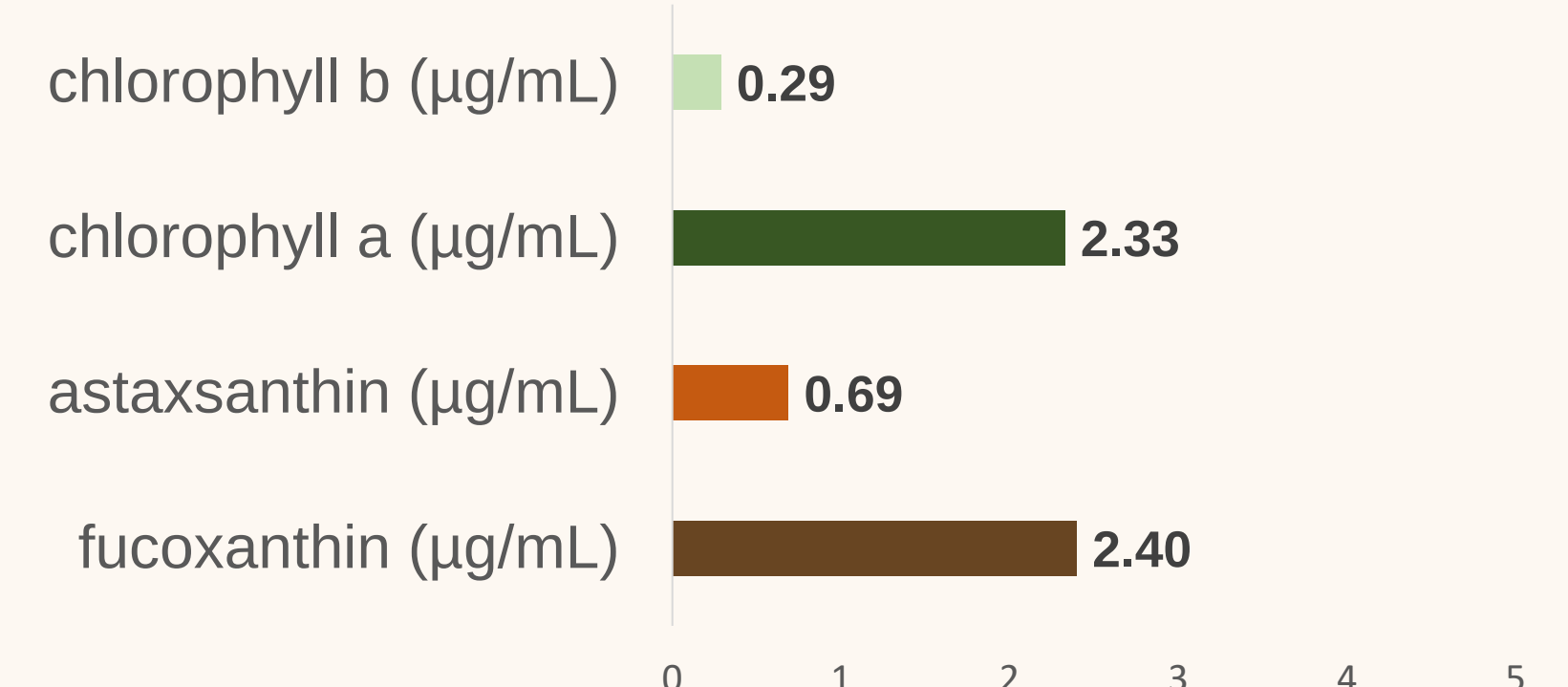


Figure 3 Pigment content in *Asparagopsis taxiformis*

Brown macroalgae showed the highest fucoxanthin content (4.67 ± 0.95 µg/mL), green macroalgae had the highest chlorophyll content (4.91 ± 0.95 µg/mL; 0.78 ± 0.11 µg/mL), while red macroalgae contained highest astaxanthin content (0.69 ± 0.06 µg/mL).