

Metabolic profile through ¹H-NMR and UHPLC–MS of *Brachiaria decumbens*

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MATERIALS AND METHODS

- Seeds by Matsuda (Rebeirao Preto, Brazil), planted in Uni. Sao Paulo, Pirassununga, Brazil.
- CRBD with Nitrogen dose (0, 150, 300 and 450 kg/hectare).
- Leaves dried below 40 °C, grounded by 16 mesh size.

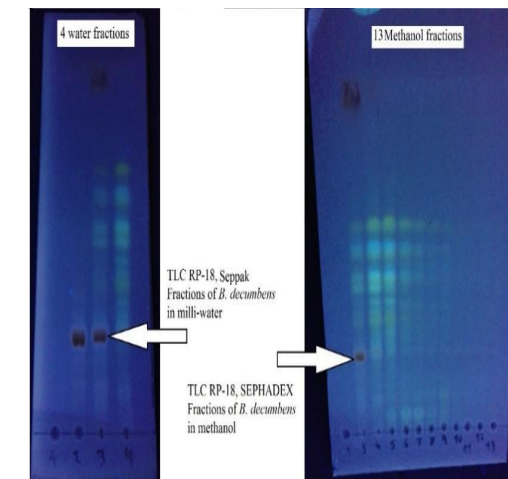
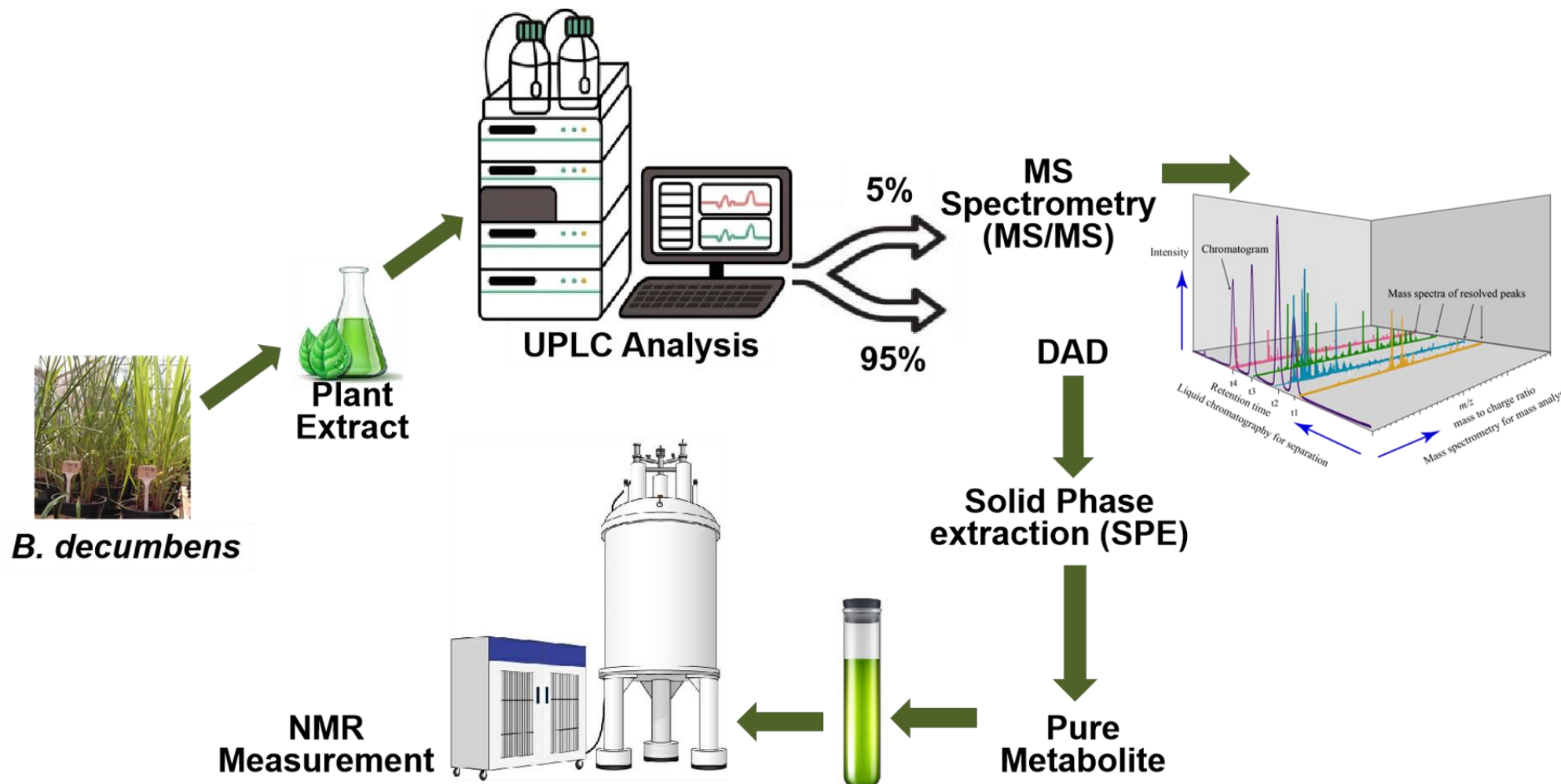


Fig. d: TLC RP-18, Fractions showing polarity of *B. decumbens* in pure water by SEPHADEX & in pure methanol by Seppak

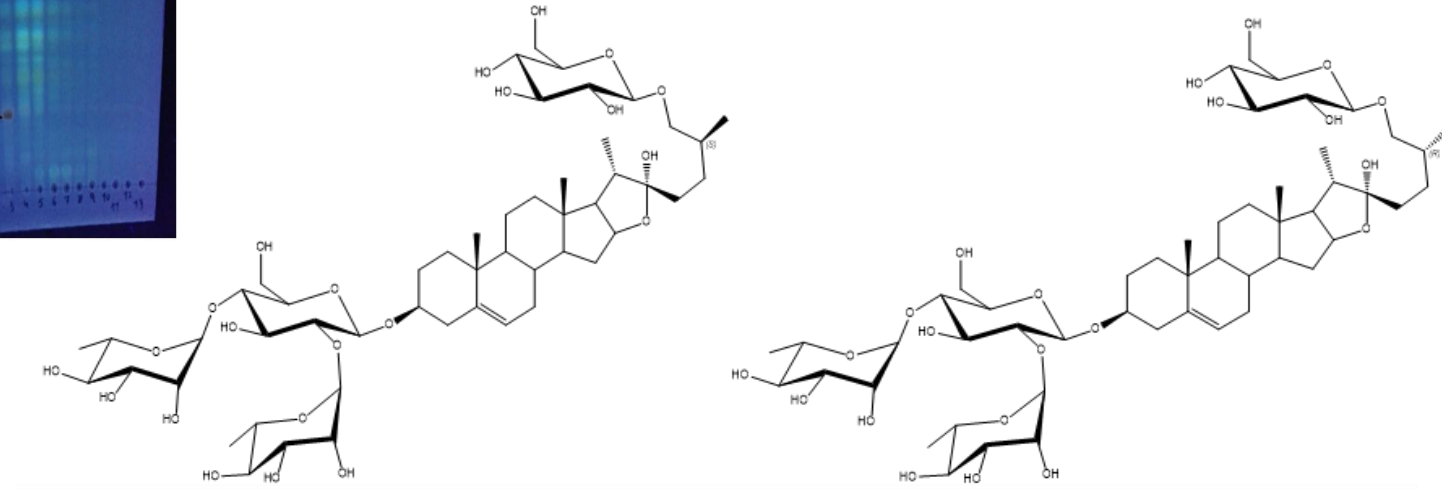


Fig. b: Protoneodioscin (25S-)

Fig. c: Protodioscin (25R-)

Structure Elucidation

- Dioscin, Diosgenin, Yamogenin
- **Protoneodioscin & Protodioscin (Fig. b, c)**
- 3β-methoxy-lanost -9 (11)-ene (1)
- 3-O-β-D- gluco-pyranosyl-24(S)-ethyl-22E –dihydro-cholesterol
- 3-O-β-D- gluco-pyranosyl-24(R)-ethyl-22E –dihydro-cholesterol
- 3-O-{α-L- rhamno-pyranosyl-(1→4)-[α-L-rhamno-pyranosyl-(1→2)]-β-D-glucopyranosyl} -25(S)-spirost-5-en-3β-ol

Conclusion:

- ¹H, ¹³C NMR: 4 steroidal saponins, 3 sapogenins
- Protoneodioscin isomer (protodioscin and protoneodioscin), main component along-with acetyl-protodioscin, deoxyhexosyl-hexosyl-hexosyl-3-o-spirostane, o-hexosyl-protodioscin.

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Fraction	Solvent system	R _f	Colour	Component
1	Acetonitrile :	0.25	Yellowish	Saponin
2	Water : Formic Acid (4:6:1%) 20 ml	0.24	orange	
3		0.86	Bluish green	Phenols / Flavones

B. decumbens R_f values extracted with methanol from SEPHADEX