

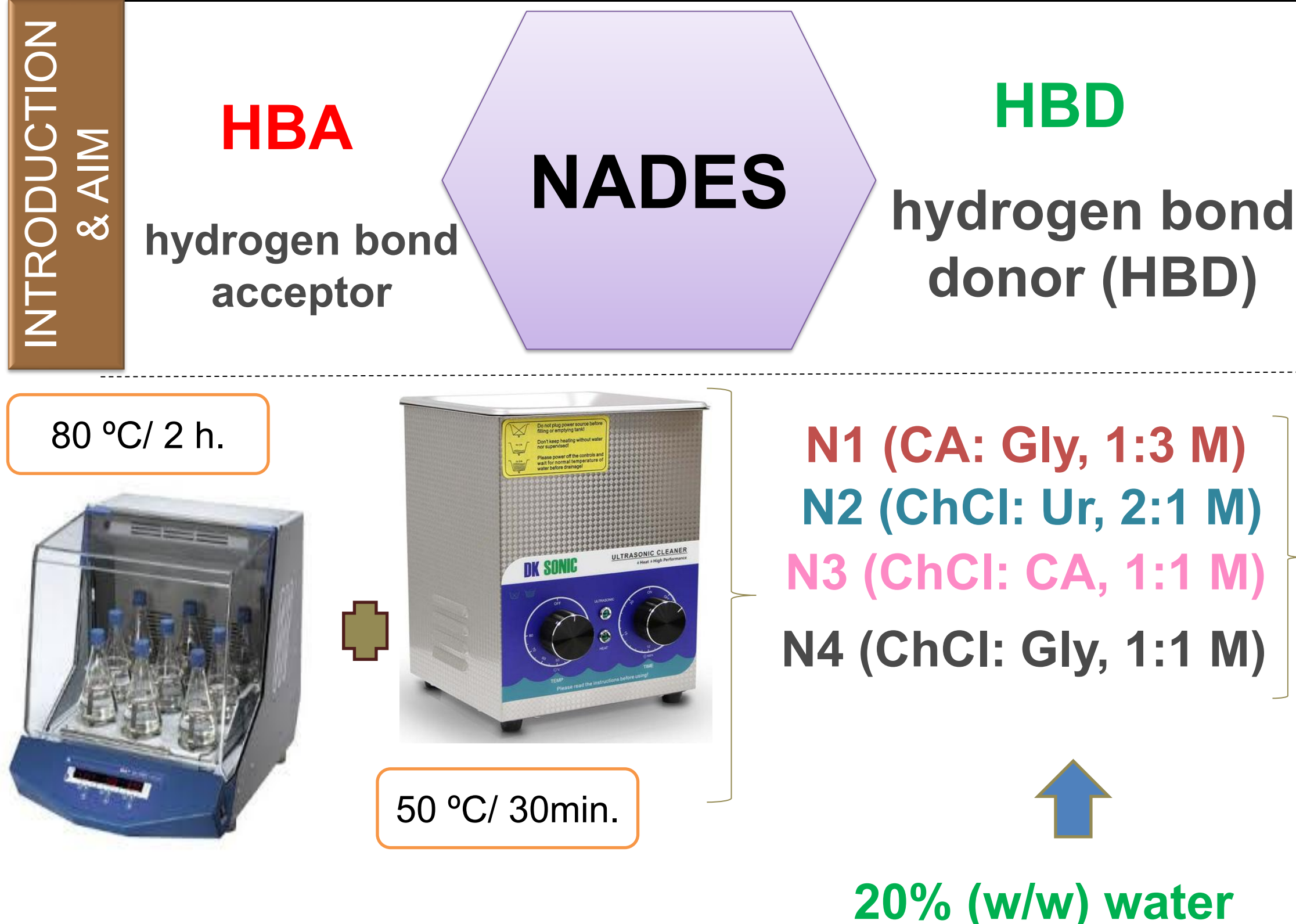
Synthesis for obtaining Natural Deep Eutectic Solvents (NADES) and their Physicochemical Characterization

Adriana R. Machado 1,2, Carolina Cassoni 2, Gonçalo Sá 1, João Nunes1,3, Manuela Pintado 2

1 Associação CECOLAB – Collaborative Laboratory towards Circular Economy, Business Centre, Rua Nossa Senhora da Conceição, 2, Oliveira do Hospital 3405-155, Portugal

2 Universidade Católica Portuguesa, CBQF - Centro de Biotecnologia e Química Fina – Laboratório Associado, Escola Superior de Biotecnologia, Rua Diogo Botelho 1327, Porto 4169-005, Portugal

3 Association BLC3 – Technology and Innovation Campus, R&D Unit Centre Bio, Rua Nossa Senhora da Conceição, 2, Oliveira do Hospital 3405-155, Portugal



In this work, preliminary analyses were conducted to evaluate the influence of the synthesis method on the physicochemical properties of NADES.

Four NADES systems composed of : choline chloride (ChCl), urea (Ur), citric acid (CA), and glycerol (Gly).

Properties assessed included:

- pH,
- electrical conductivity,
- density;
- refractive index (RI).

Electrical conductivity was higher in NADES synthesized via agitation x ultrasound, notably in:

➤ **N2**: suggesting enhanced ionic mobility.

Ultrasound-assisted synthesis generally yielded NADES with greater density, as observed in;

➤ **N1** and **N4**: potentially due to improved molecular packing.

Table 1. Physicochemical characterization of NADES

Agitation					Ultrasound				
NADES	pH	conductivity(mS/cm)	RI(%)	density(ρ)g.cm-3	NADES	pH	Conductivity (mS/cm)	RI(%)	Density(ρ)g.c m-3
1	1,67	3,34	1,360	1,084	1	1,68	0,552	1,361	1,155
2	6,24	37,7	1,476	1,145	2	7,55	16,43	1,428	1,093
3	1,00	1,41	1,429	1,203	3	0,41	15,67	1,419	1,177
4	6,96	16,44	1,423	1,138	4	6,32	20,3	1,419	1,154

CONCLUSION

These findings indicate that mechanical agitation favors higher conductivity, whereas ultrasound may promote greater homogeneity and compactness. Therefore, the choice of synthesis method should be tailored to the targeted physicochemical profile for specific applications.

REFERENCES

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