Electronic Supplementary Material (ESI) for RSC Advances.


Supporting Information

# Dihydronicotinamide riboside: synthesis from nicotinamide riboside chloride, purification and stability studies

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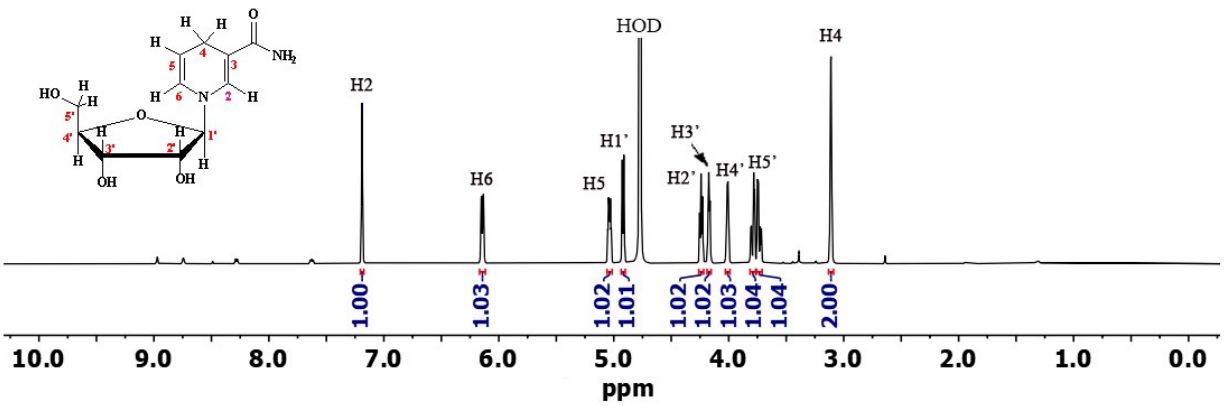


**Figure S1.** $^{1}H$ NMR Spectrum of NRH in $D_2O$.

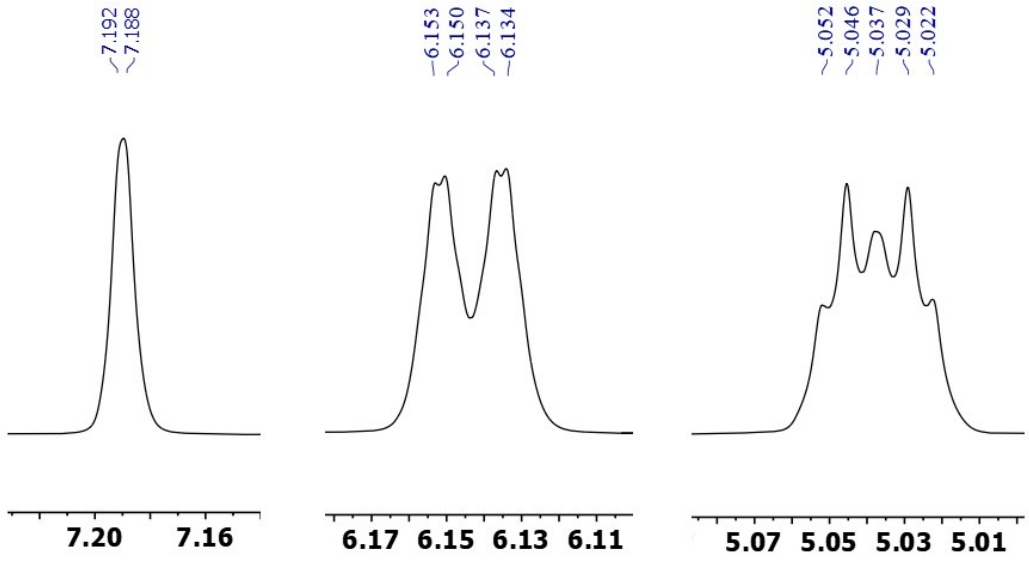


**Figure S2.** $^{1}H$ NMR Spectrum of NRH in $D_2O$. Expanded between 5.00-7.20 ppm.

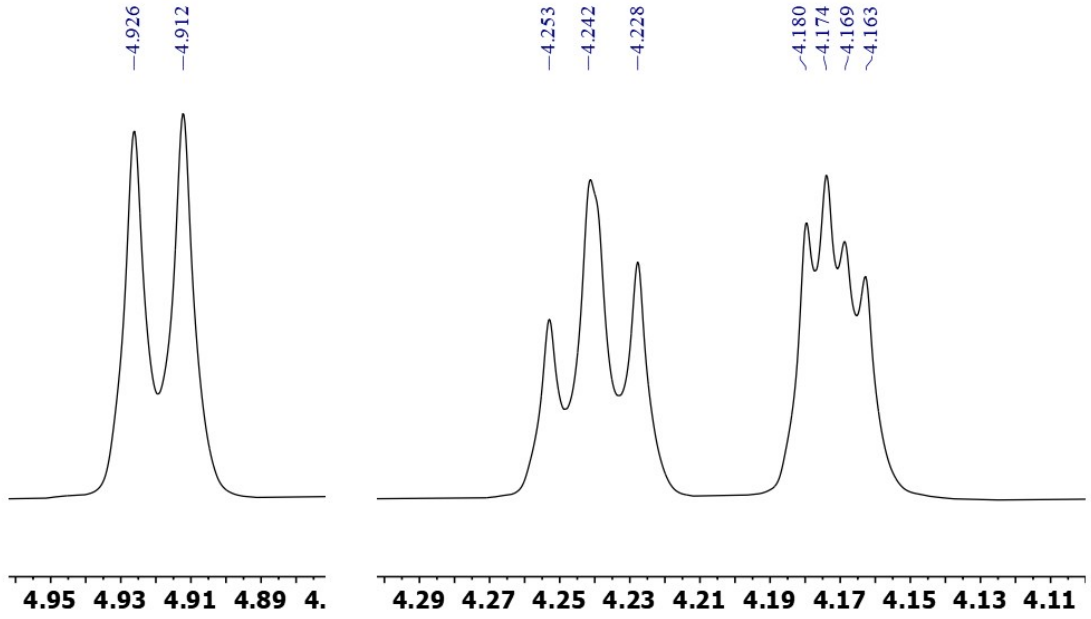


**Figure S3.** $^{1}$H NMR Spectrum of NRH in $D_2O$. Expanded between 4.11-4.95 ppm.

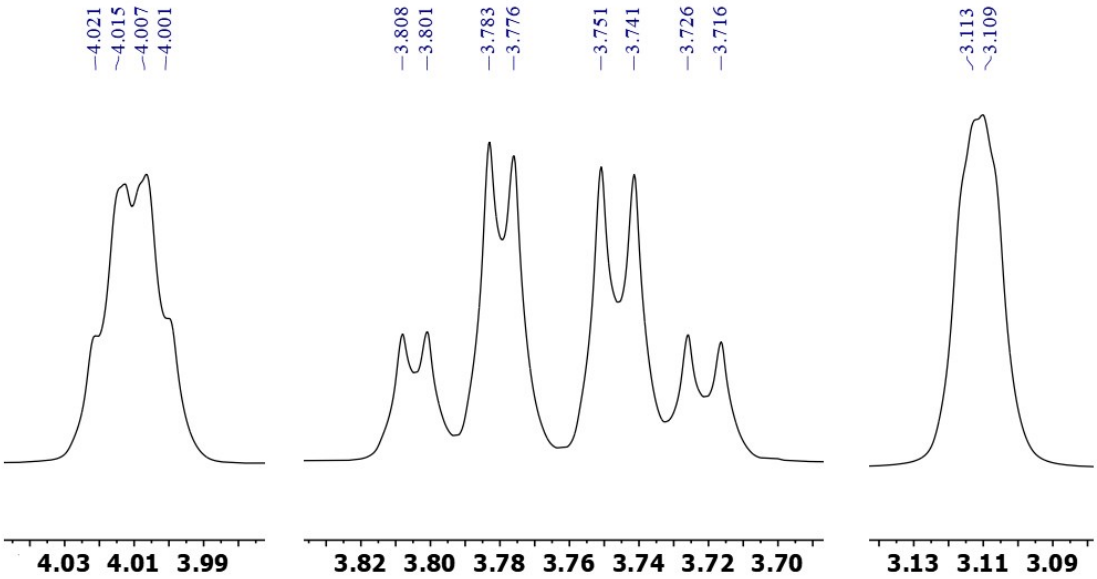


**Figure S4.** $^{1}$H NMR Spectrum of NRH in $D_2O$. Expanded between 3.09-4.03 ppm.

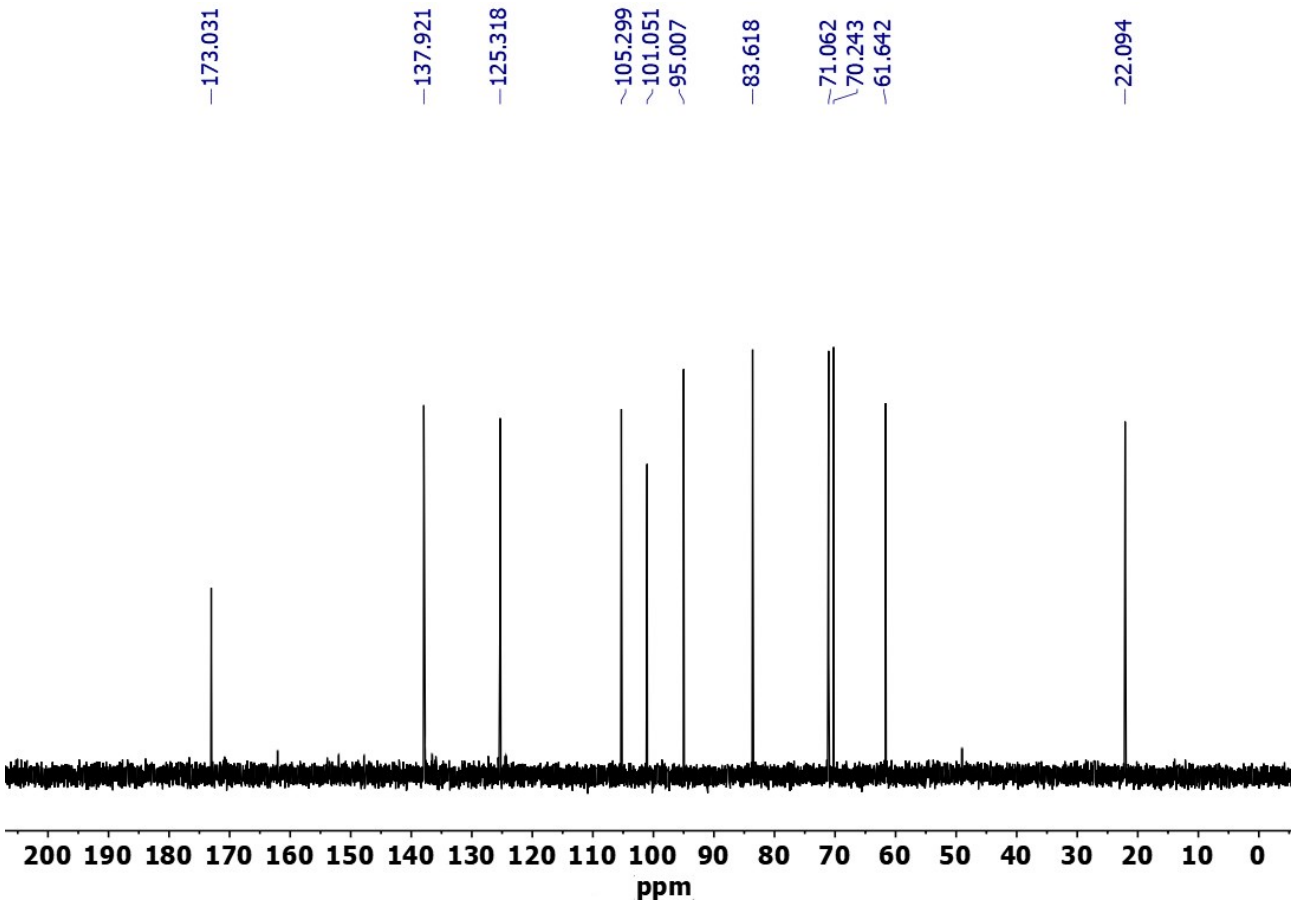


**Figure S5.** $^{13}C$ NMR Spectrum of NRH in $D_2O$.

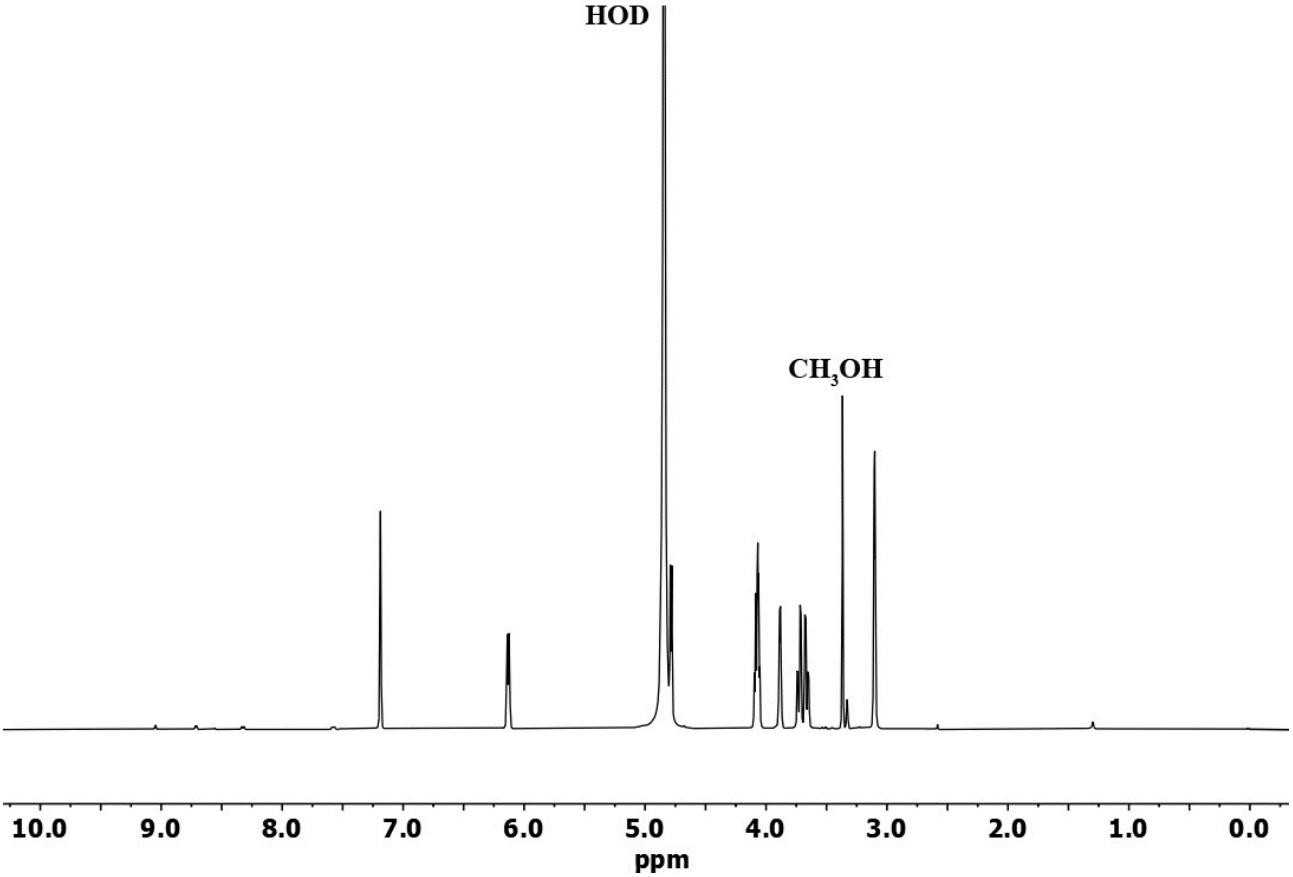


**Figure S6.** $^{1}$H NMR Spectrum of NRH in $CD_3OD$.

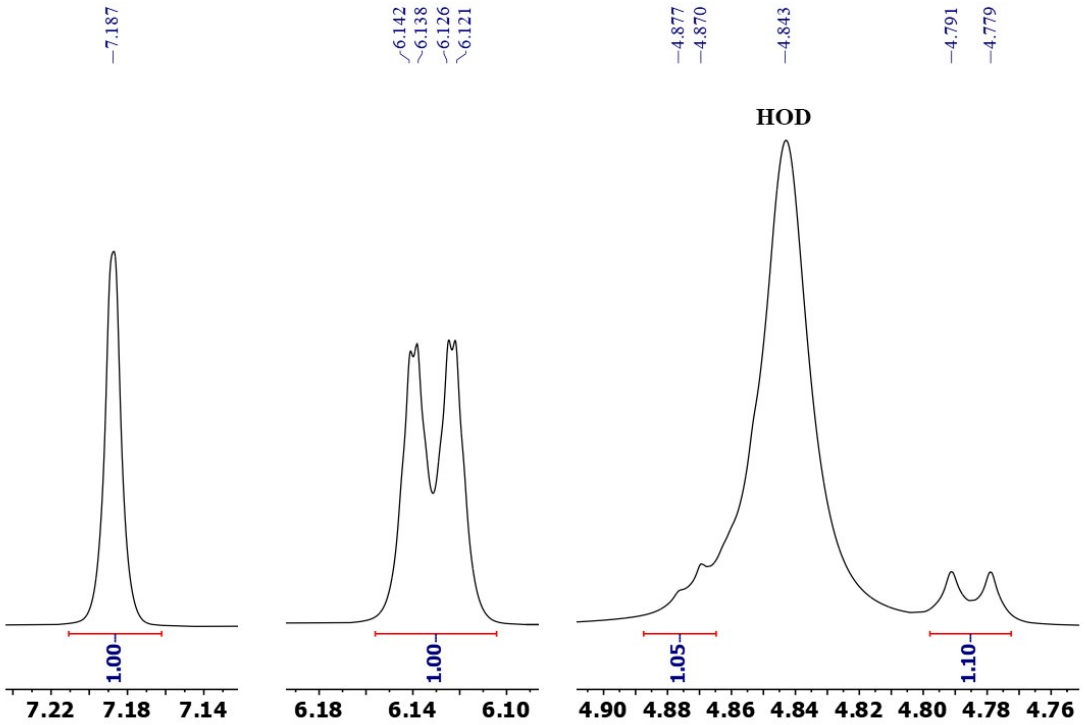


**Figure S7.** $^{1}$H NMR Spectrum of NRH in $CD_3OD$. Expanded between 4.76-7.22 ppm.

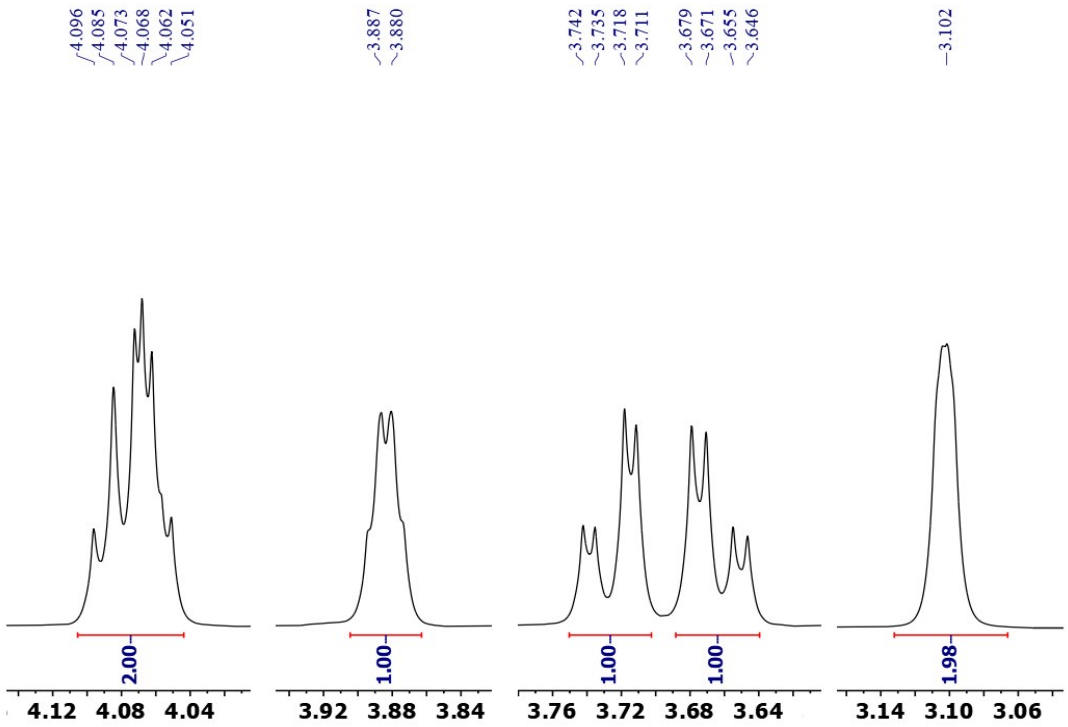


**Figure S8.** $^{1}$H NMR Spectrum of NRH in $CD_3OD$. Expanded between 3.06-4.12 ppm.

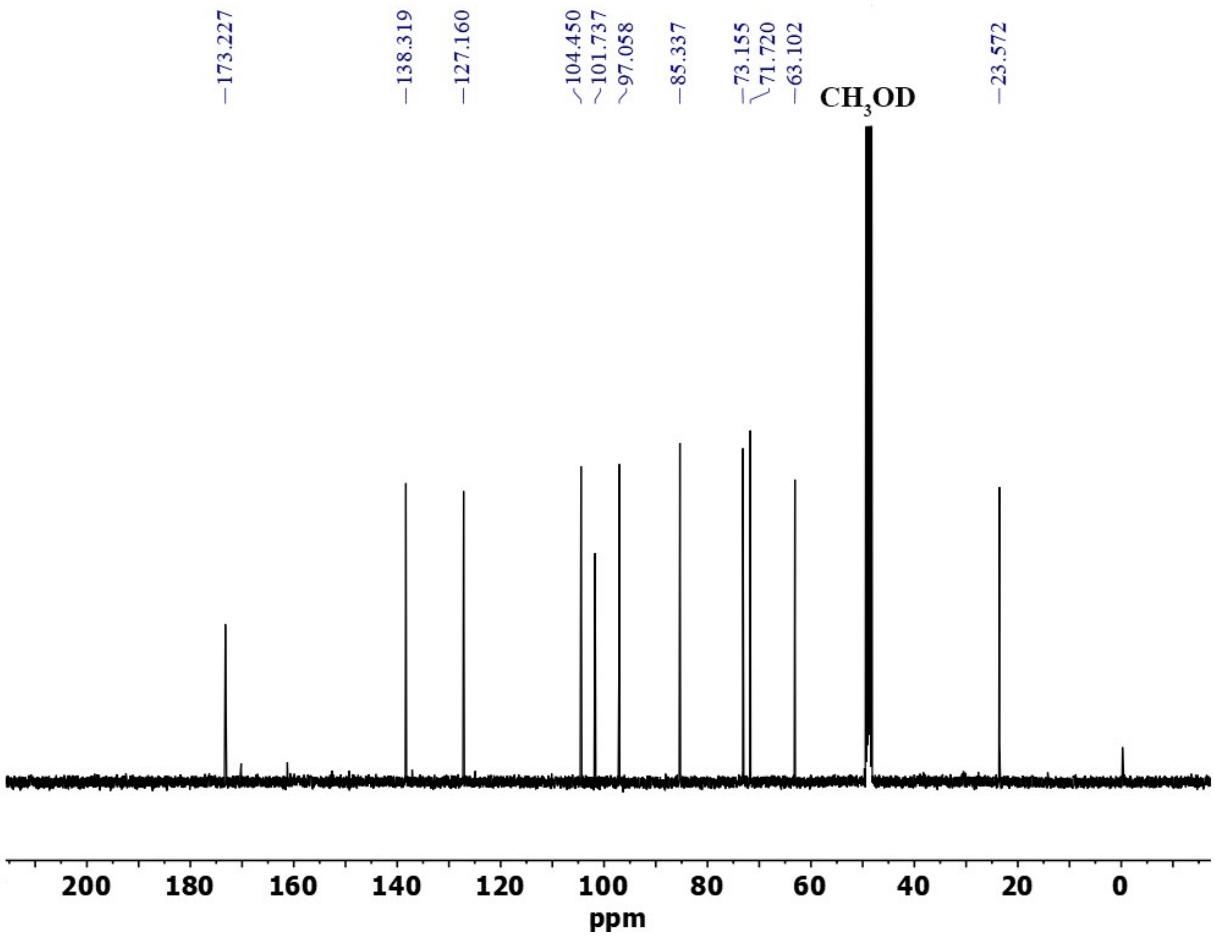


**Figure S9.** $^{13}C$ NMR Spectrum of NRH in $CD_3OD$.

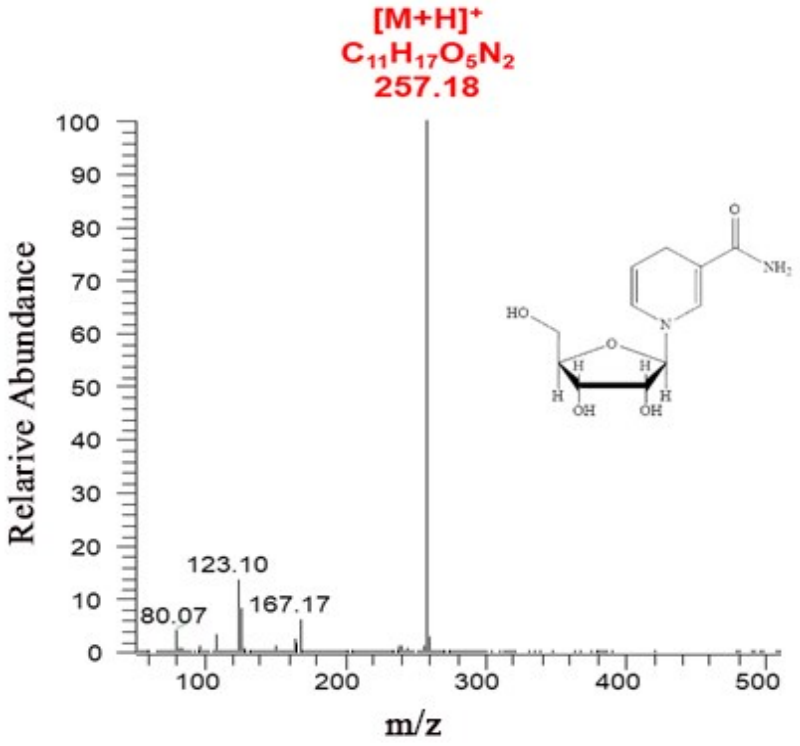


**Figure S10.** MS of NRH.

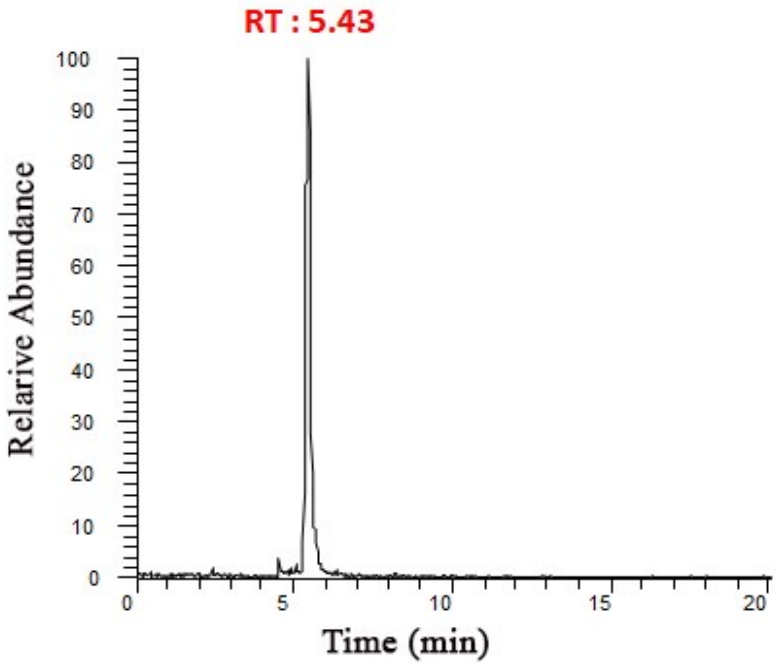


**Figure S11.** Selected Reaction Monitoring (SRM) of NRH.

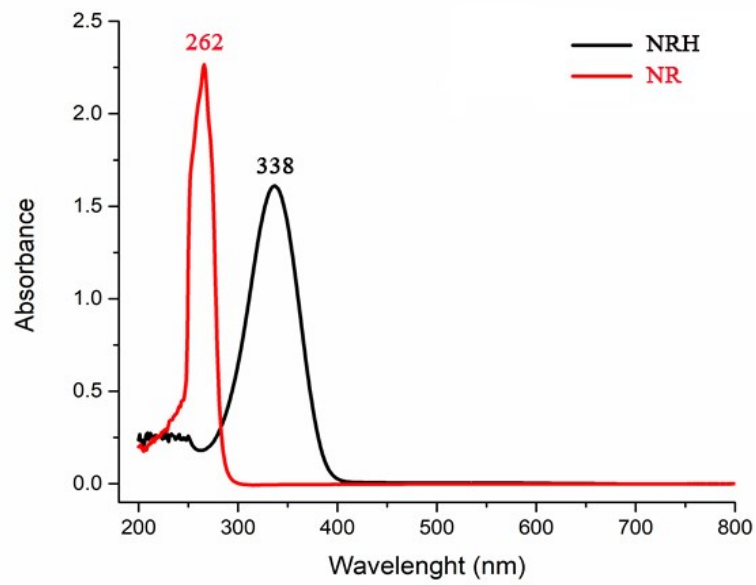


**Figure S12.** UV-VIS Spectrum of NRH in $H_2O$.

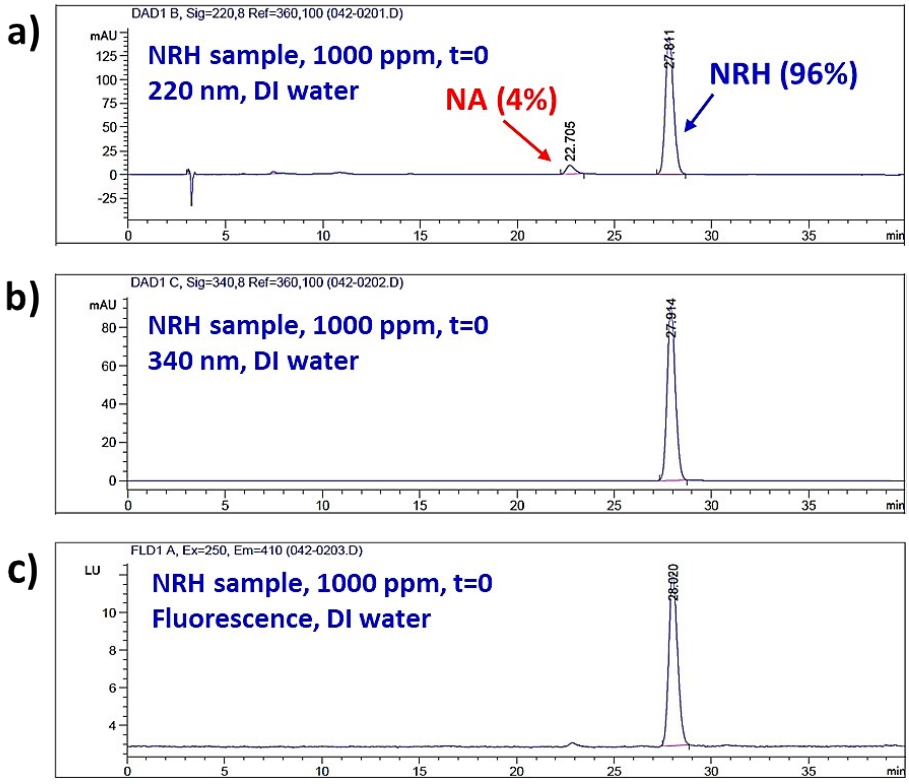


**Figure S13.** The HPLC chromatograms of the purified NRH **a**) UV detector at 220 nm, **b**) UV detector at 340 nm, and **c**) fluorescence detector.

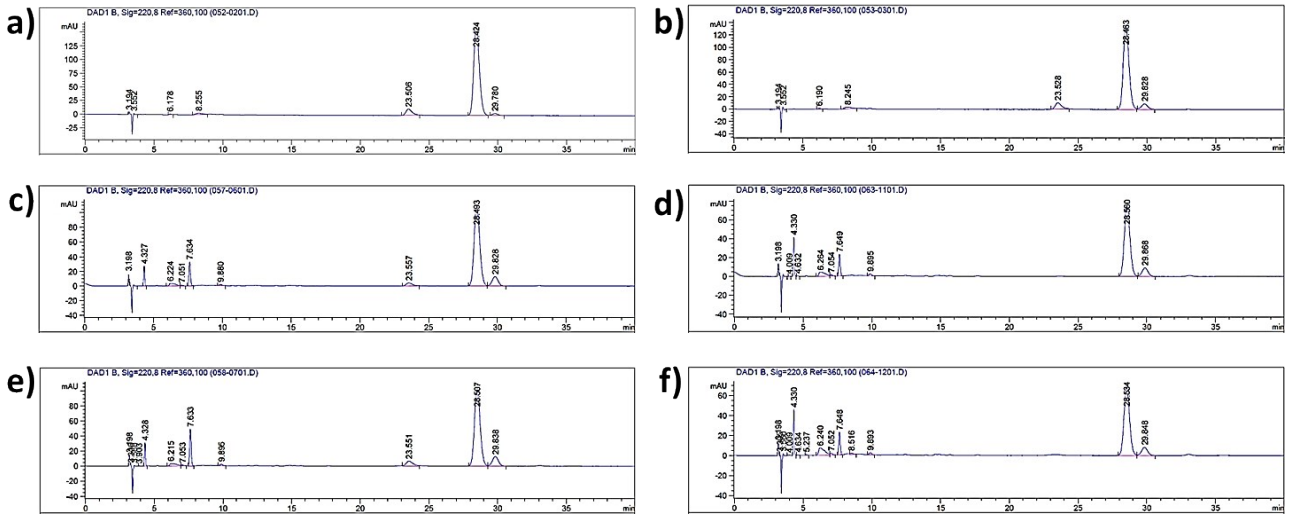

**Figure S14.** The HPLC chromatograms of the NRH aqueous solutions stored at different conditions for 60 days. **a**) at 4 °C under $N_2$ and darkness, **b**) at 4 °C under air and darkness, **c**) at 25 °C under $N_2$ and darkness, **d**) at 25 °C under air and darkness, **e**) at 25 °C under $N_2$ and light, and **f**) at 25 °C under air and light.

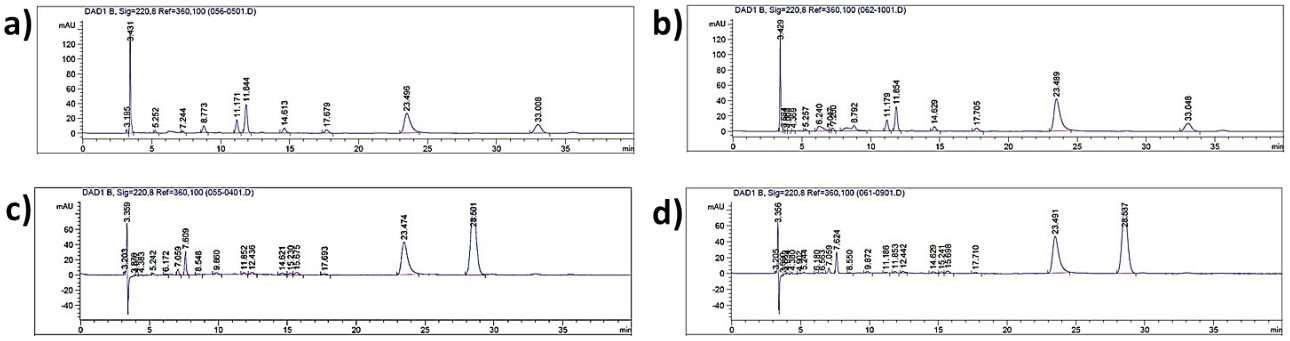

**Figure S15.** The HPLC chromatograms of the NRH aqueous solutions stored at different conditions for 60 days. **a**) pH= 7.0, at 25 °C, under N2 and dark, **b**) pH= 7.0, at 4 °C, under air and dark, **c**) pH= 9.0, at 25 °C, under N2 and dark, and **d**) pH= 9.0, at 25 °C, under air and dark.

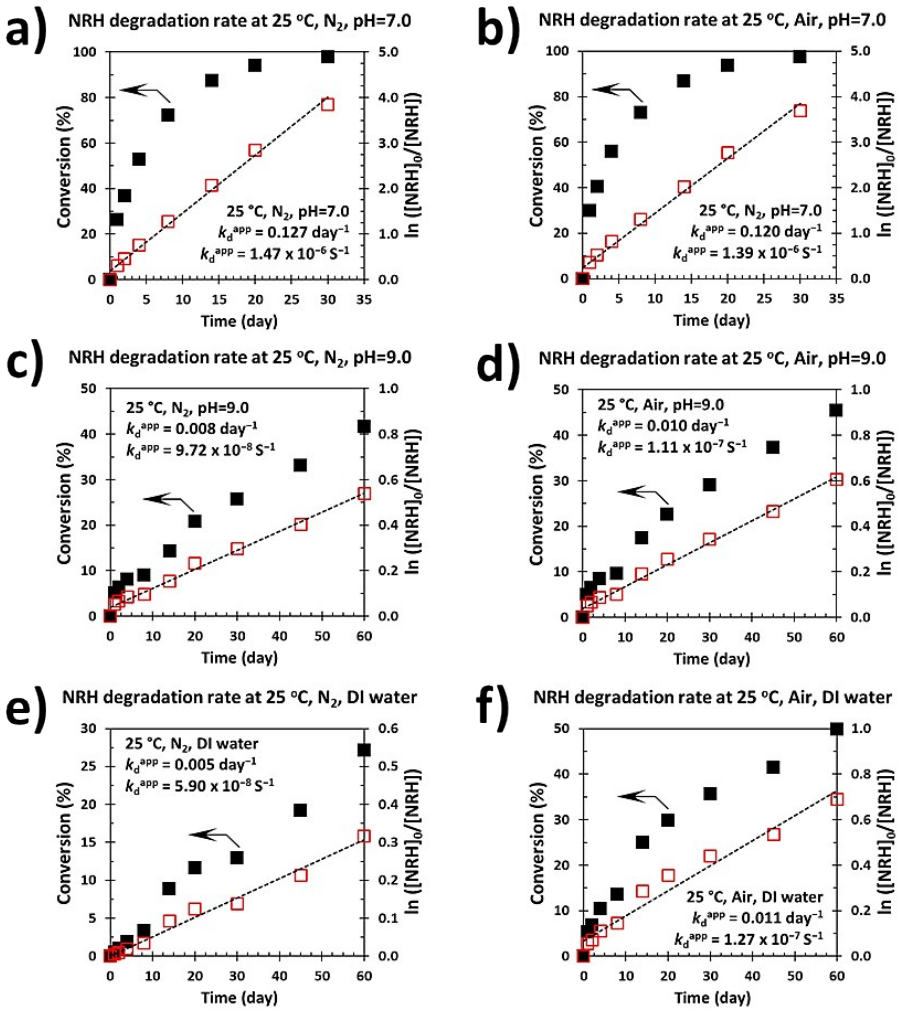


**Figure S16.** Kinetic graphs and the first order degradation rates for some of NRH samples. **a, b**) pH= 7.0, at 25 °C, under $N_2$ and air, **c, d**) pH= 9.0, at 25 °C, under $N_2$ and air, **e, f**) DI water, at 25 °C, under N2 and air.