

Selective Extraction of Platinum(IV) from the Simulated Secondary Resources Using Simple Secondary Amide and Urea Extractants

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CONTENT

1. ¹H NMR spectra of (a) N-(2-ethylhexyl)acetamide (MonoAA), (b) MonoAA exchanged with D₂O, and (c) 2-ethylhexylamine as a starting material.

2. IR spectra of N-(2-ethylhexyl)acetamide (MonoAA).

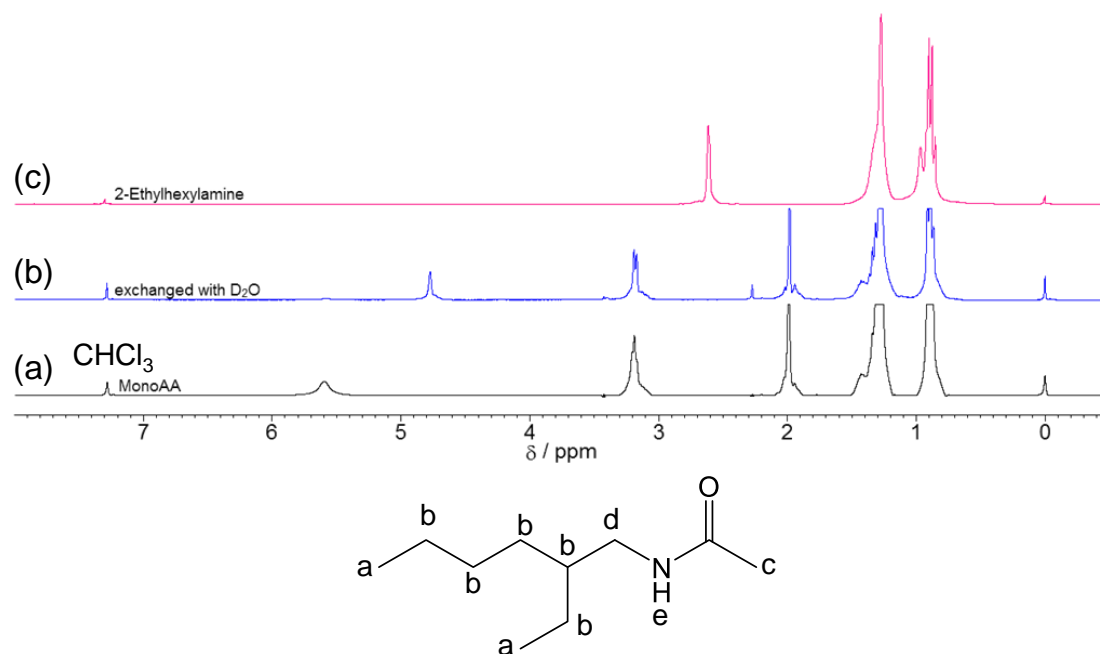
3. ¹H NMR spectra of (a) N-(2-ethylhexyl)octanamide (MonoOA), (b) MonoOA exchanged with D₂O, and (c) 2-ethylhexylamine as a starting material.

4. IR spectra of N-(2-ethylhexyl)octanamide (MonoOA).

5. ¹H NMR spectra of (a) N,N-bis(2-ethylhexyl)acetamide (BisAA), (b) BisAA exchanged with D₂O, and (c) di(2-ethylhexyl)amine as a starting material.

6. IR spectra of N,N-bis(2-ethylhexyl)acetamide (BisAA).

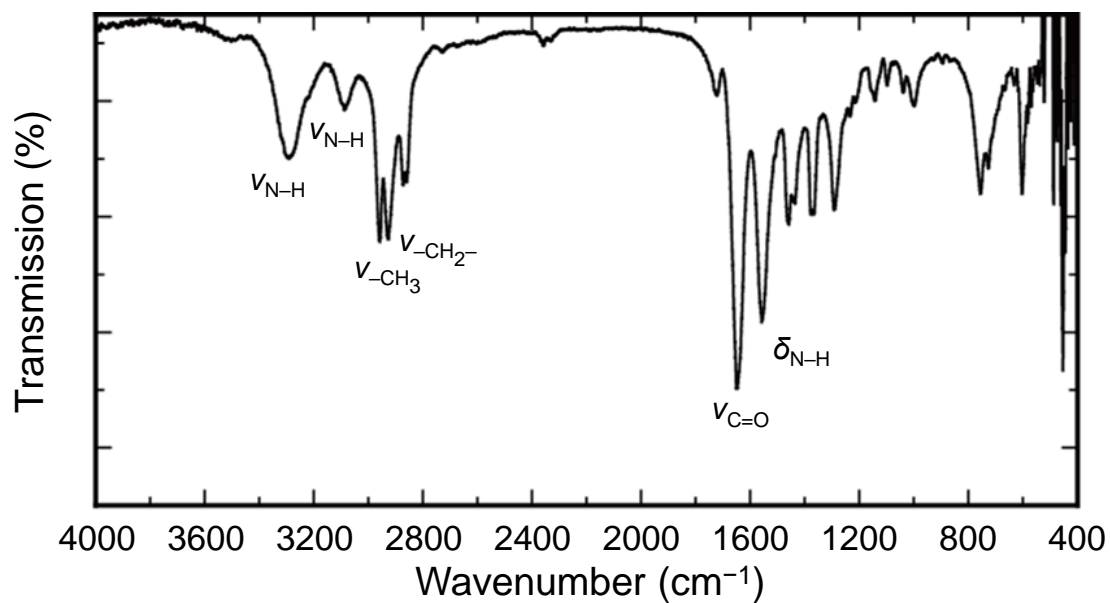
1. ^1H NMR Spectra of *N*-(2-ethylhexyl)acetamide (MonoAA).



^1H NMR	δ / ppm	Assignment	Multiplicity	Integral ratio
CDCl_3	0.90	a	m	5.60 (6H)
TMS	1.28–1.43	b	m	8.19 (9H)
	2.00	c	s	2.53 (3H)
	3.19	d	t	2.00 (2H)
	5.60	e	br	0.85 (1H)

Figure S1. ^1H NMR spectra of (a) *N*-(2-ethylhexyl)acetamide (MonoAA), (b) MonoAA exchanged with D_2O , and (c) 2-ethylhexylamine as a starting material.

2. IR Spectra of *N*-(2-ethylhexyl)acetamide (MonoAA).



FT-IR	ν / cm^{-1}	Assignment
ATR	1558	N-H (bending)
SeZn	1647	C=O (stretching)
	2927	-CH ₂ - (stretching)
	2958	-CH ₃ (stretching)
	3088	N-H (stretching)
	3290	N-H (stretching)

Figure S2. IR spectra of *N*-(2-ethylhexyl)acetamide (MonoAA).

3. ^1H NMR Spectra of *N*-(2-ethylhexyl)octanamide (MonoOA).

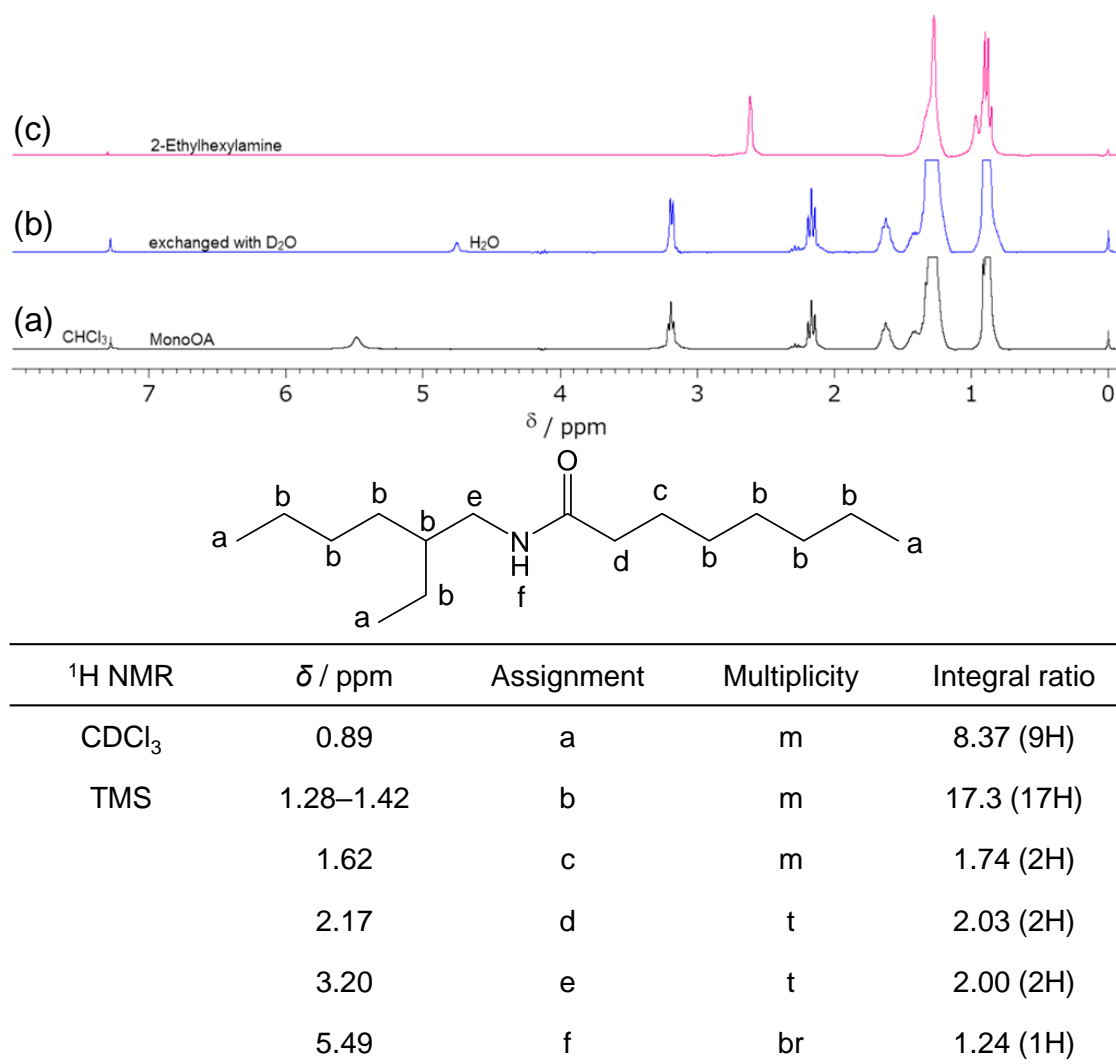
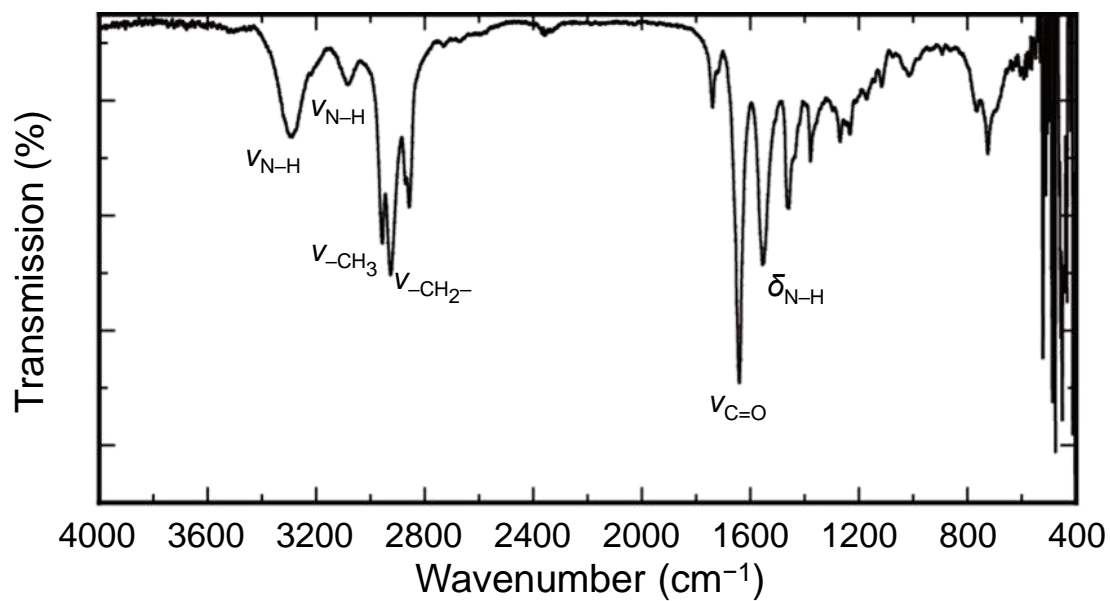


Figure S3. ^1H NMR spectra of (a) *N*-(2-ethylhexyl)octanamide (MonoOA), (b) MonoOA exchanged with D_2O , and (c) 2-ethylhexylamine as a starting material.

4. IR Spectra of *N*-(2-ethylhexyl)acetamide (MonoAA).



FT-IR	ν / cm^{-1}	Assignment
ATR	1556	N-H (bending)
SeZn	1641	C=O (stretching)
	2926	-CH ₂ - (stretching)
	2956	-CH ₃ (stretching)
	3084	N-H (stretching)
	3290	N-H (stretching)

Figure S4. IR spectra of *N*-(2-ethylhexyl)octanamide (MonoOA).

5. ^1H NMR Spectra of N,N -bis(2-ethylhexyl)acetamide (BisAA).

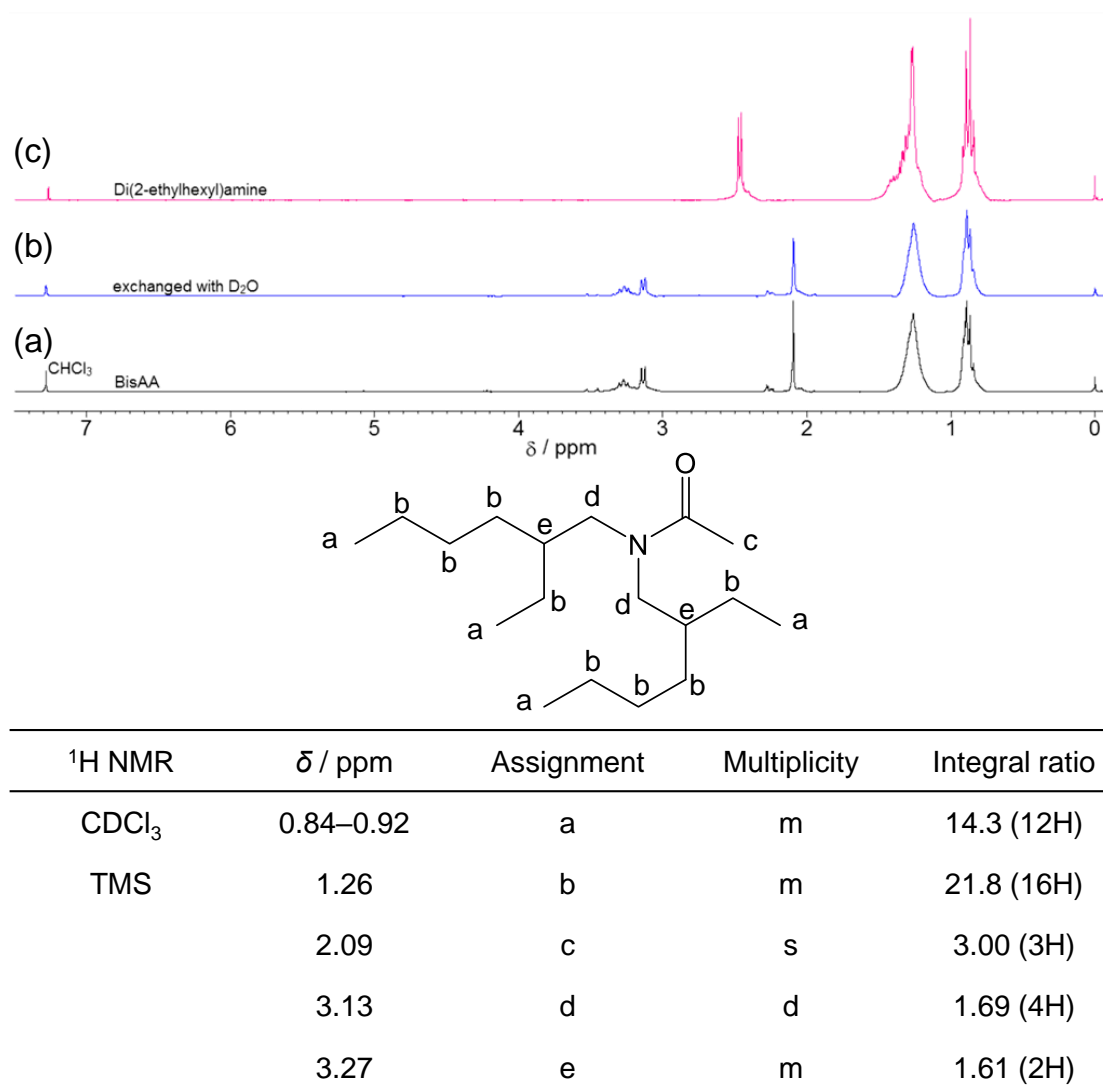
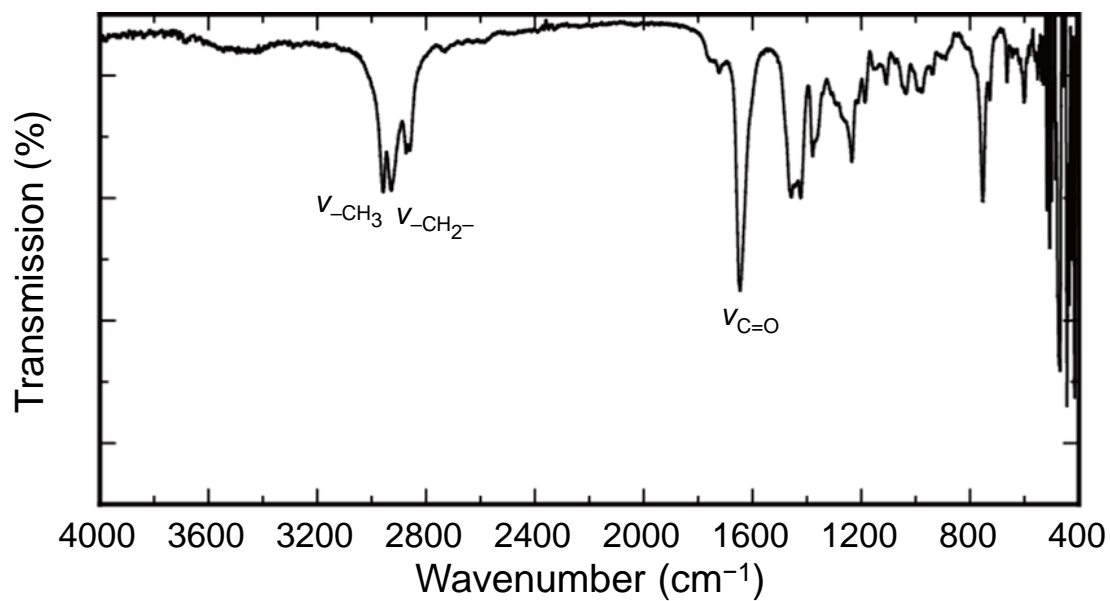


Figure S5. ^1H NMR spectra of (a) N,N -bis(2-ethylhexyl)acetamide (BisAA), (b) BisAA exchanged with D_2O , and (c) di(2-ethylhexyl)amine as a starting material.

6. IR Spectra of *N,N*-bis(2-ethylhexyl)acetamide (BisAA).



FT-IR	ν / cm^{-1}	Assignment
ATR	1647	C=O (stretching)
SeZn	2927	–CH ₂ – (stretching)
	2959	–CH ₃ (stretching)

Figure S6. IR spectra of *N,N*-bis(2-ethylhexyl)acetamide (BisAA).