

## Supporting Information

### Development of anticorrosive two pack polyurethane coatings based on modified fatty amide of *Azadirachta indica* juss oil cured at room temperature – A sustainable resource

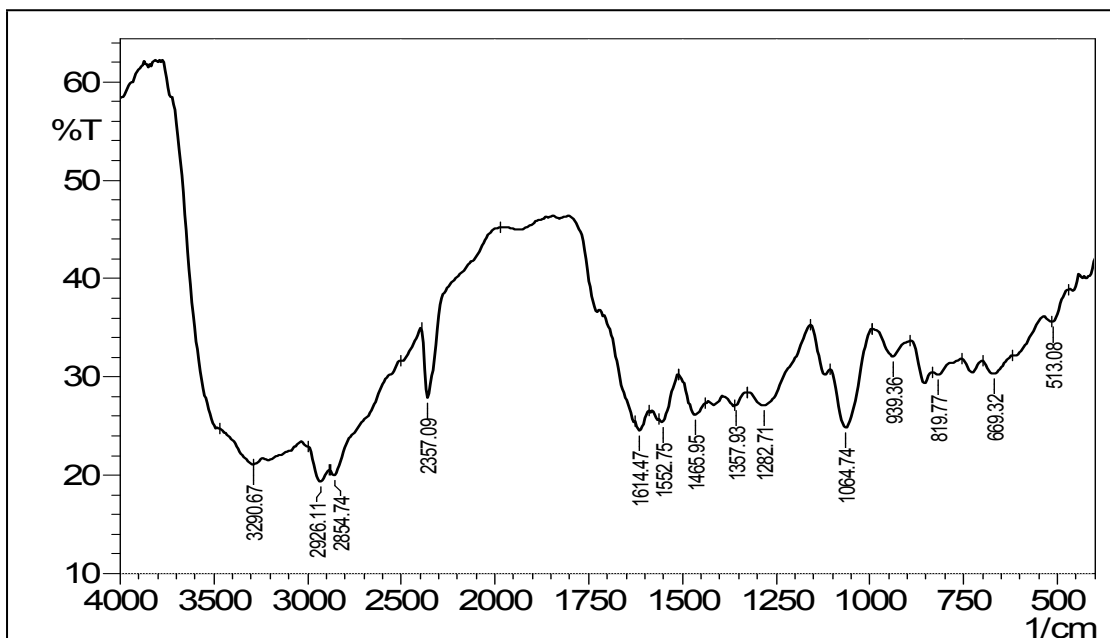
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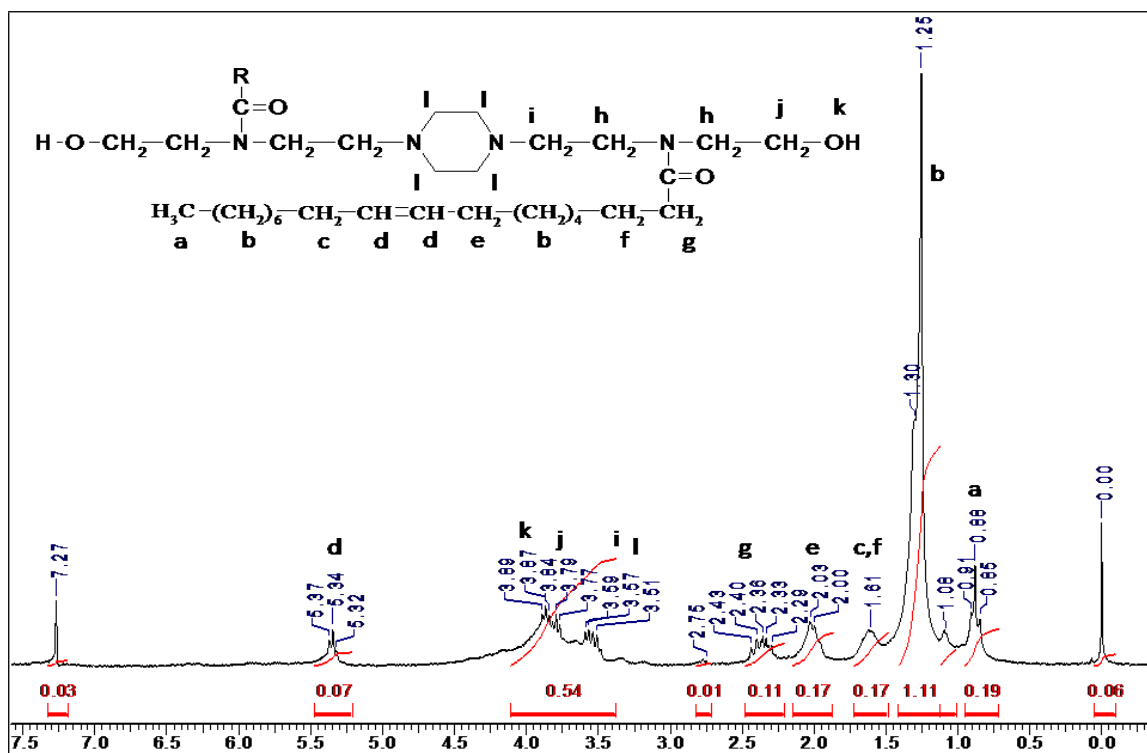
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**Table S1:** Characteristic properties of neem oil, AIJFA and PAIJFA

Properties	Specific gravity @ 30 °C	Refractive index @ 40 °C	Acid value (mg of KOH/g)	Iodine value (g of I <sub>2</sub> / 100g)	Amine value (mg of KOH/g)	OH value (mg of KOH/g)
Neem oil	0.920	1.503	0.5	64.55	0.0	0.0
AIJFA	0.928	1.542	0.0	59.82	0.37	205
PAIJFA	0.936	1.578	0.0	46.89	6.08	116



**Fig. S1:** FT-IR spectrum of PAIJFA



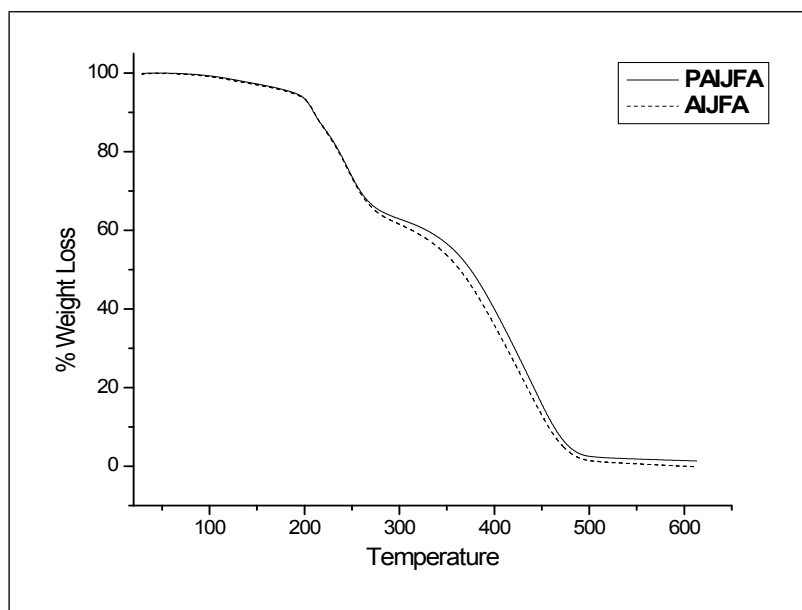
**Fig. S2:** <sup>1</sup>H NMR spectral analysis of PAIJFA

**Table S2:** PU coatings properties

Sr. No.	Samples/ Property	PU Coating prepared from	
		AIJFA	PAIJFA
1.	Surface dry (min) (± 5)	80	65
2.	Cross cut adhesion (Pass)	95	98
3.	Gloss (± 2)	68	82
4.	Impact resistance (lb.inch)	32.72	43.63
5.	Mar resistance (g) (± 10)	100	130
6.	Pencil hardness	1H	1H
7.	Flexibility by conical mandrel	Pass	Pass

**Table S3:** Chemical resistance tests of the prepared PU coatings

Test / Sample	Water	Acid (5 % HCl)	Alkali (5 % NaOH)	Solvent (Xylene)
PU-AIJFA	unaffected	film swell	slight cracks	film swell
PU-PAIJFA	unaffected	loss in gloss	loss in gloss	loss in gloss



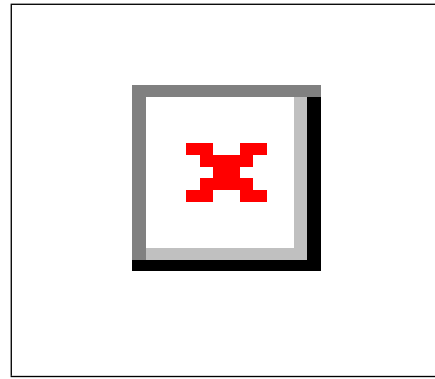
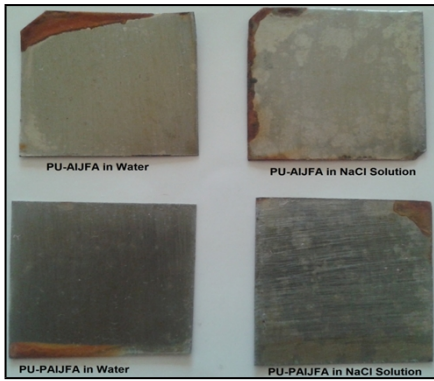
**Fig. S3:** Thermal analysis of prepared PU coatings

**Table S4:** Weight gain and weight loss study of coatings in water and NaCl solution

Days	In water		In aqueous NaCl (3.5 %)	
	PU-AIJFA (g)	PU-PAIJFA (g)	PU-AIJFA (g)	PU-PAIJFA (g)
1.	2.02560	2.00310	2.18920	2.11456
2.	2.02639	2.00350	2.19148	2.11627
3.	2.02720	2.00426	2.20393	2.12042
4.	2.03182	2.00824	2.20507	2.12483
5.	2.03297	2.00884	2.20413	2.12651
6.	2.03158	2.00940	2.20387	2.12865
7.	2.03125	2.00997	2.20113	2.12974
8.	2.03047	2.00703	2.20067	2.12852
9.	2.02941	2.00682	2.19859	2.12567
10.	2.02937	2.00461	2.19564	2.12305
11.	2.02876	2.00342	2.19458	2.11968
12.	2.02732	2.00317	2.19292	2.11722
13.	2.02645	2.00292	2.18856	2.11656
14.	2.02598	2.00271	2.18349	2.11589
15.	2.02419	2.00234	2.18050	2.11422

Before cross hatch test

After cross hatch test



**Fig. S4:** Coated panels after dip experiment in water and NaCl Solution (before and after cross hatch test)