Electronic Supplementary Material (ESI) for New Journal of Chemistry

One-pot, electrochemical synthesis of palladium nanoparitcles and their application in suzuki coupling reaction

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Supporting Information

Fig S-1

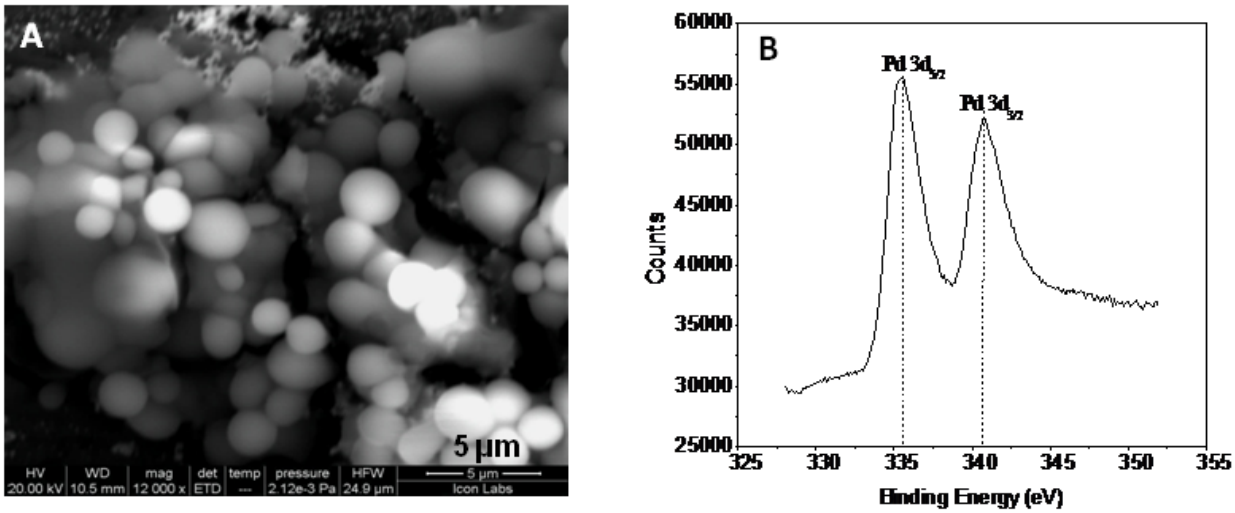
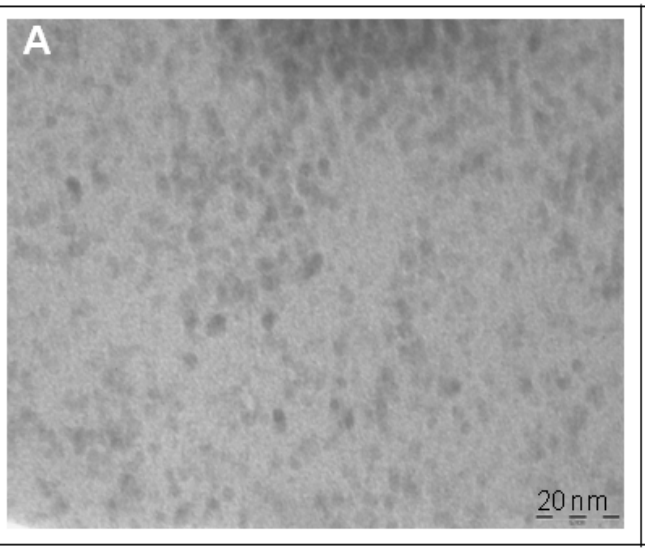


Fig S-1: (A) SEM images of Pd electrodeposit and (B) XPS of Pd-electrodeposit at potential -0.8 V for 2500 S.

Fig S-2



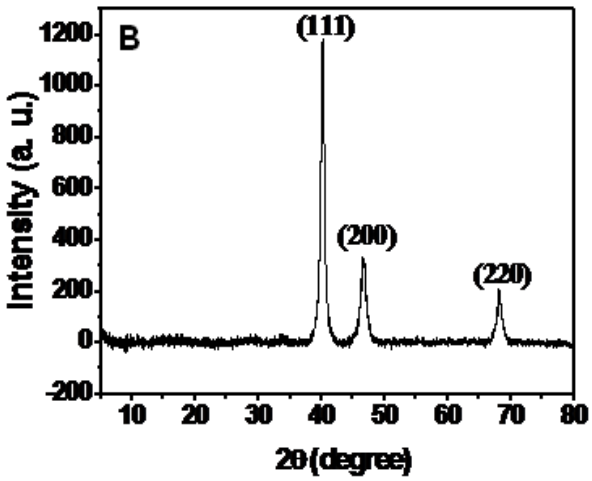
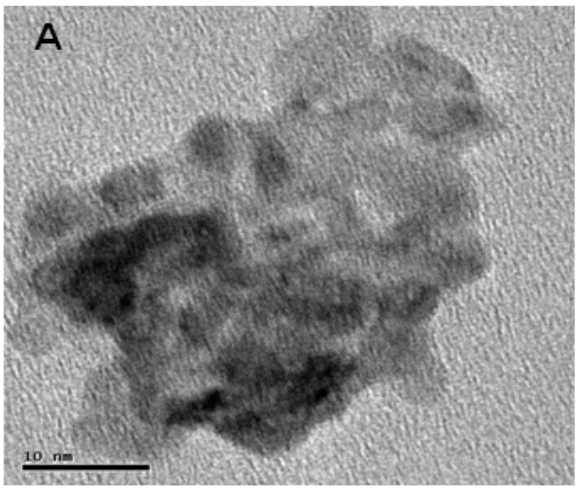


Fig S-2: (A) TEM images of PDNPs formed in Bulk electrolyte and (B) XRD pattern of the formed PDNPs in electrolyte at applied potential -2.4 V for 1000s

Fig- S-3



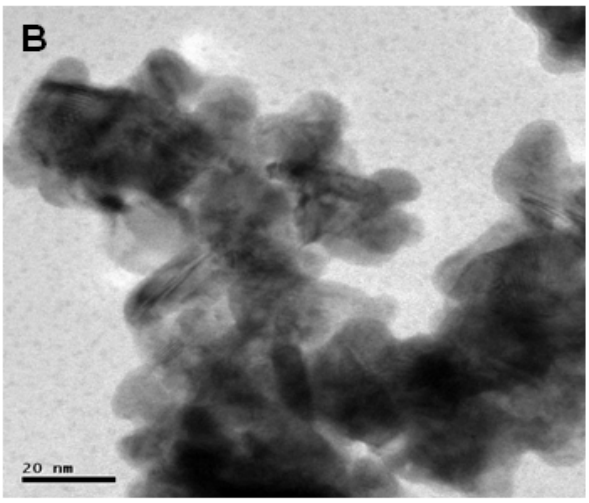
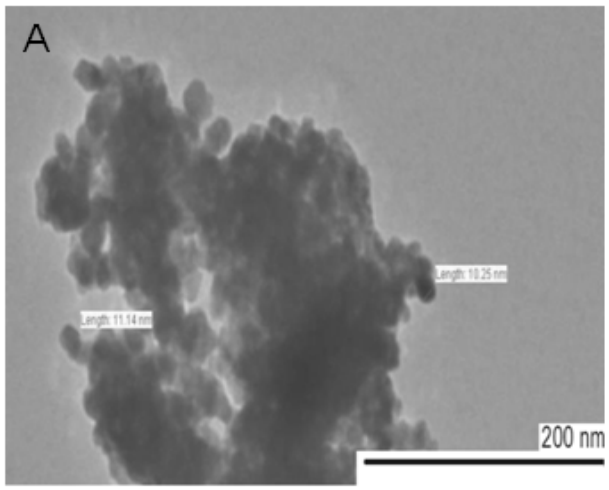


Fig S-3: (A) TEM image of the PdNPs formed in bulk electrolyte (B) TEM images of PdNPs deposited on counducting surface

Fig. S-4



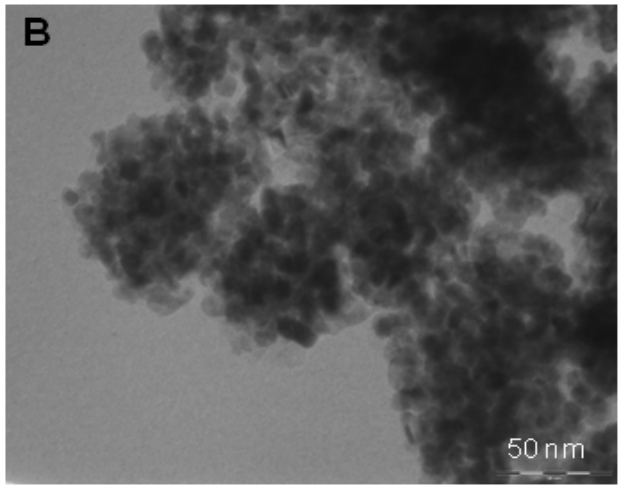
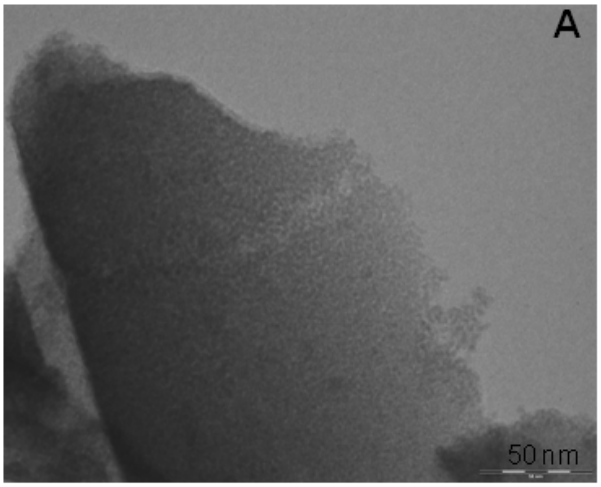


Fig S-4: (A) TEM image of 50 mM $Pd(OAc)_2$ in BmimOAc (B)TEM image of 250 mM $Pd(OAc)_2$ in BmimOAc , electrolysis time 1000 s.

Fig S -5



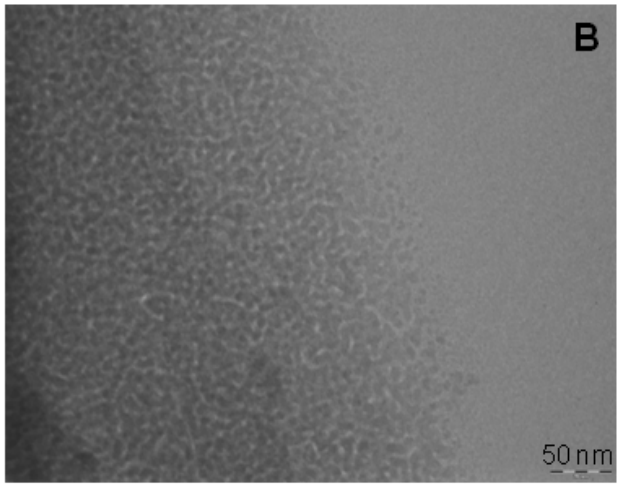


Fig S-5:TEM images (A) Electrolysis time required 1000 s (B) Electrolysis time required 2000 s at applied potential -1.6 V.

Fig S-6

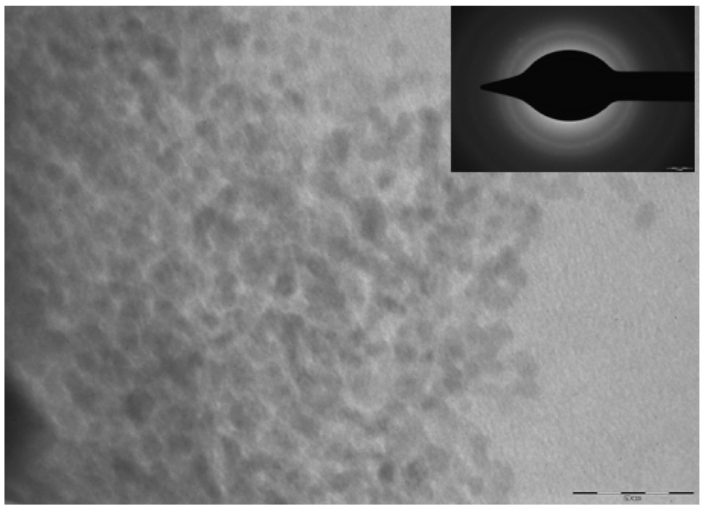
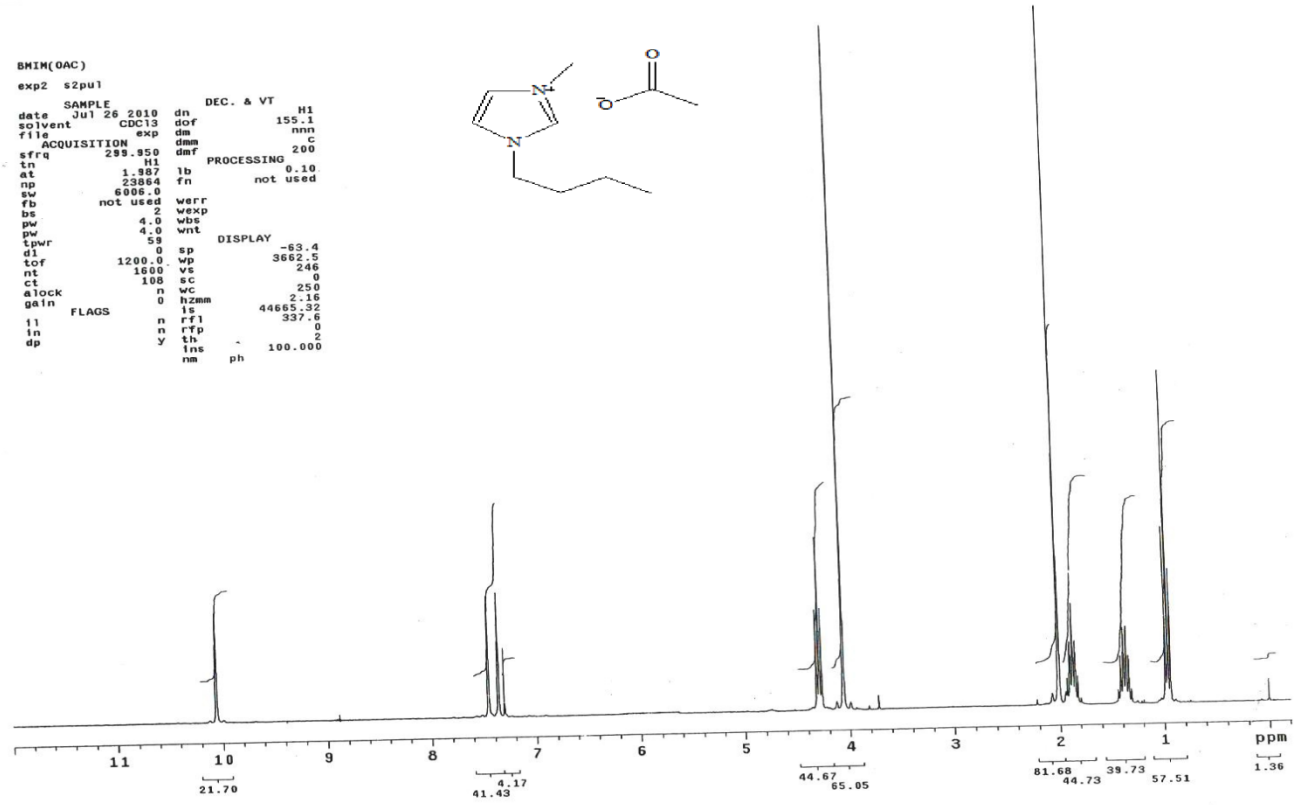
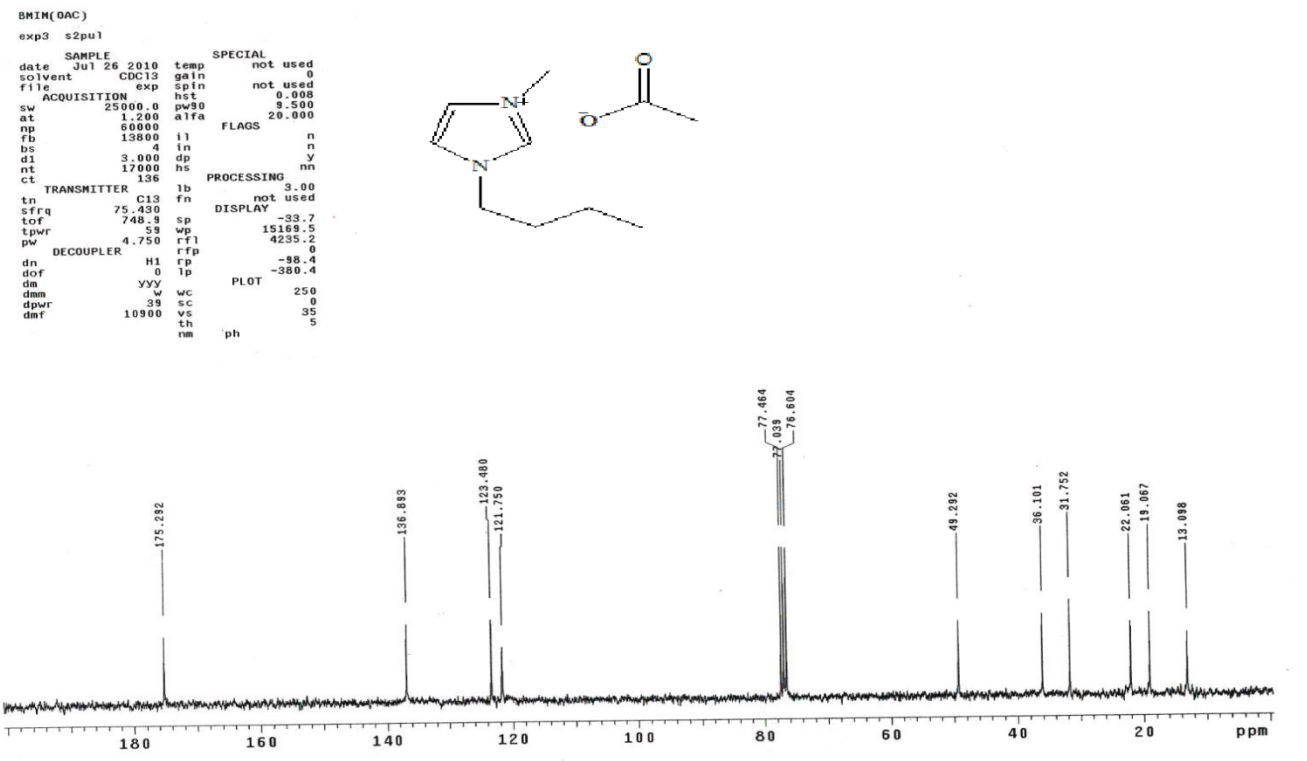


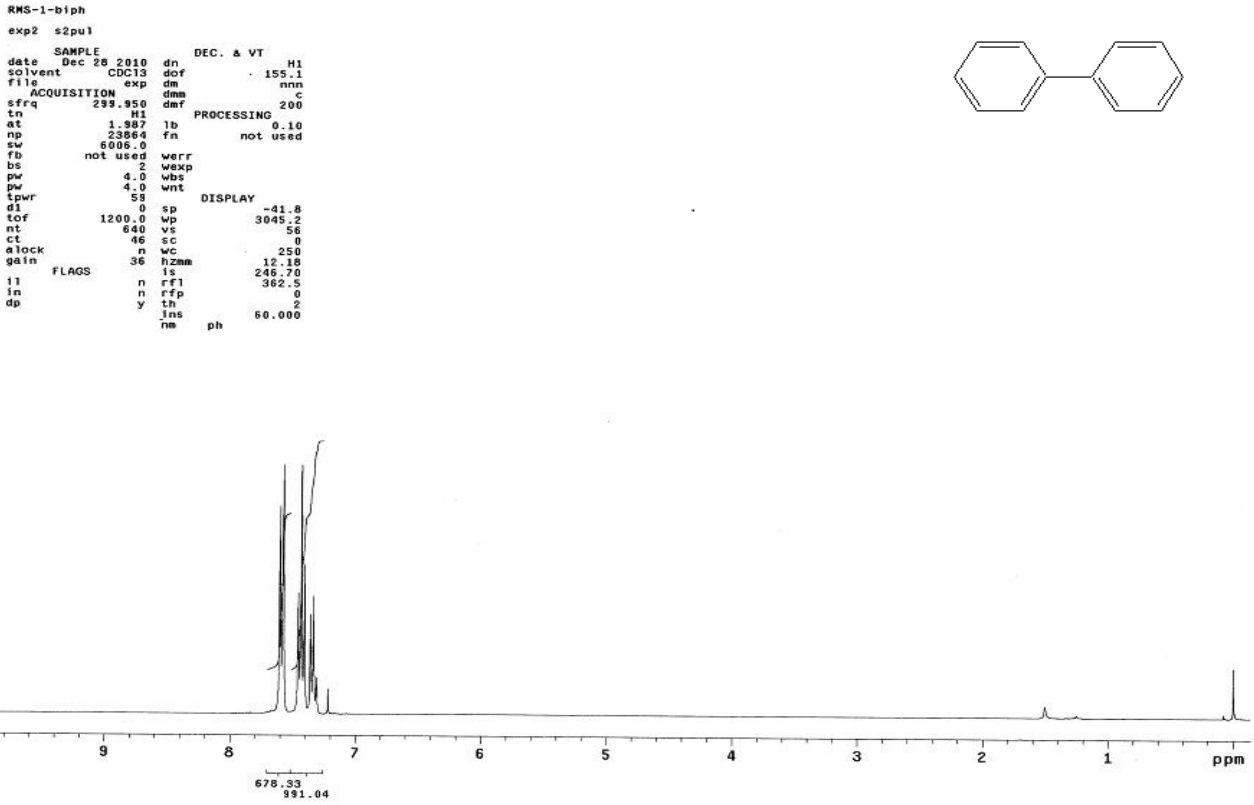
Fig S-6 : TEM images of IL-PDNP after five recycle.

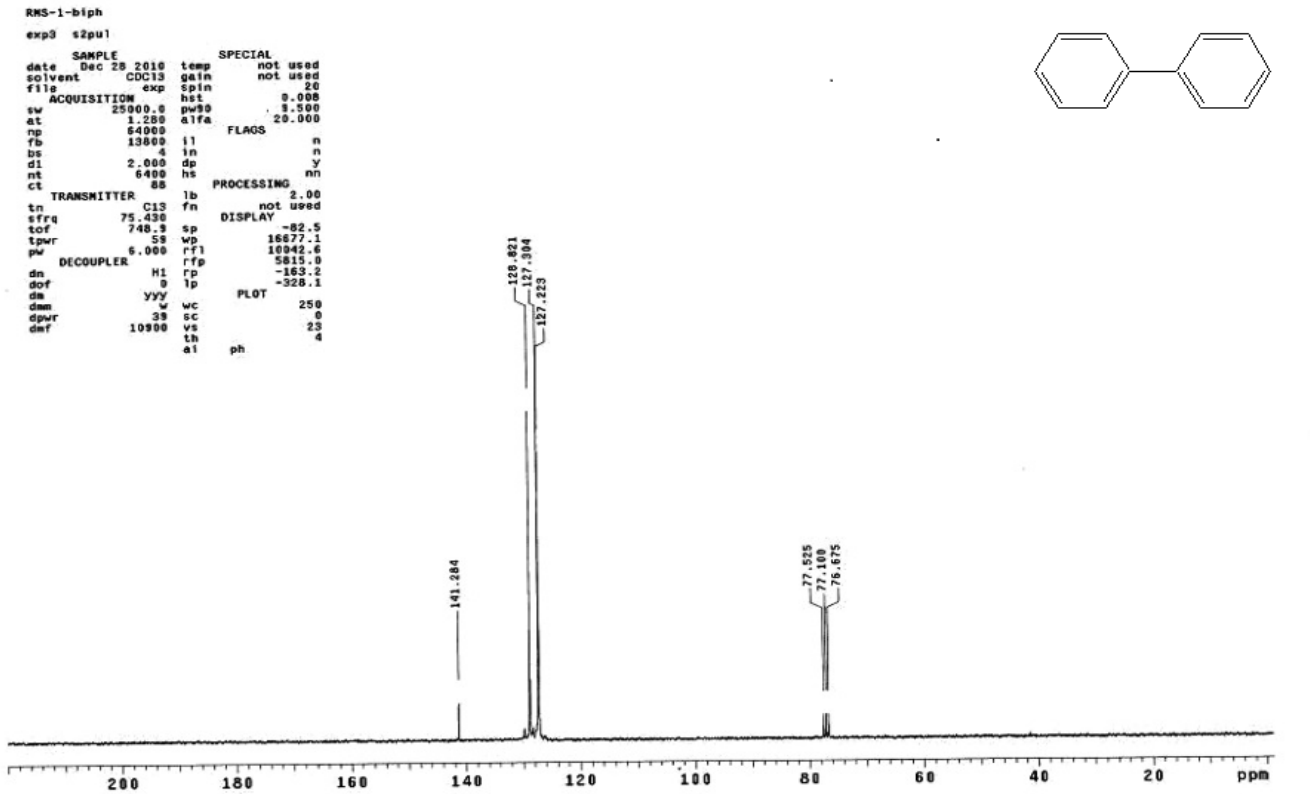
a) Analytical data of ionic liquid





b) Analytical data of products





RMS-8-OMe

exp2 s2pul

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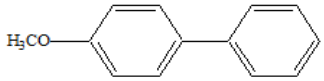
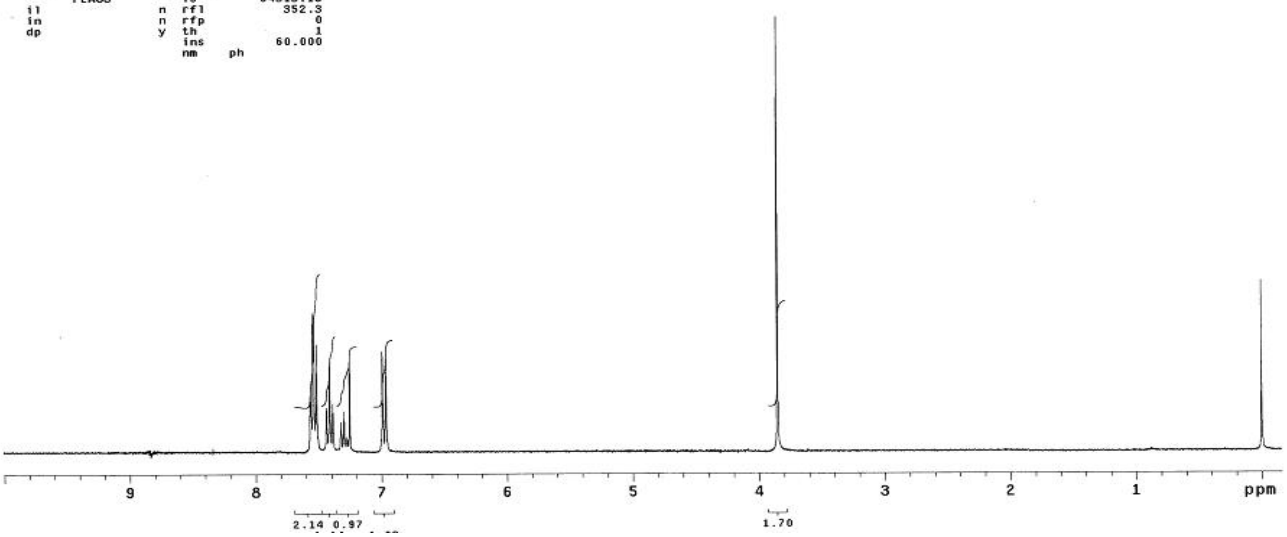
solvent	CDCL3	dof	155.1
file	exp	dm	nnn
ACQUISITION		dmm	c
sfrq	299.950	dmf	200
tn	H1	PROCESSING	
at	1.987	lb	0.10
np	23864	fn	not used
sw	6006.0	werr	
fb	not used	wexp	
bs	2	wbs	
pw	4.0	wnt	
pw	4.0	DISPLAY	
tpwr	59	sp	-47.7
dl	0	wp	3049.2
tof	1200.0	vs	95
nt	1600	sc	0
ct	62	wc	250
alock	n	hzmm	24.02
gain	2	is	64313.18
FLAGS		rfl	352.3
il	n	rfp	0
in	n	th	1
dp	y	ins	60.000
		nm	ph

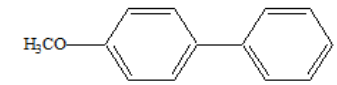


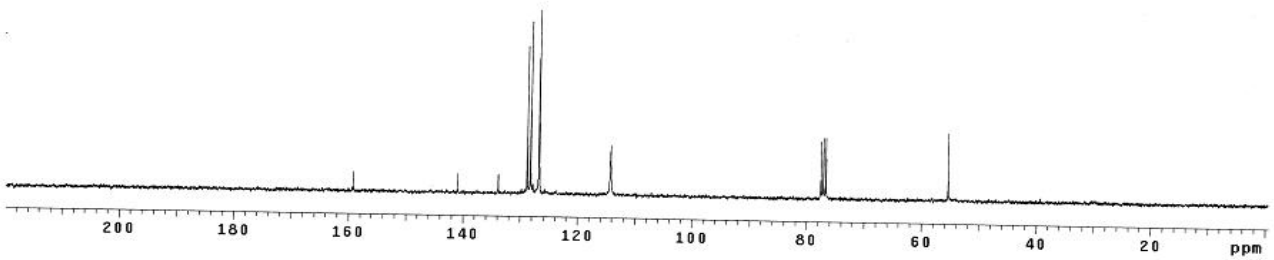


RMS-8-OMe

exp3 s2pul

SAMPLE		SPECIAL	
date	Dec 27 2010	temp	not used
solvent	CDCl3	gain	not used
file	exp	spin	20
ACQUISITION		hst	0.008
sw	25000.0	pw90	9.500
at	1.280	alfa	20.000
np	64000	FLAGS	
fb	13800	il	n
bs	4	in	n
d1	2.000	dp	y
nt	6400	hs	nn
ct	364	PROCESSING	
TRANSMITTER		lb	2.00
tn	C13	fn	not used
sfrq	75.430	DISPLAY	
tof	748.9	sp	-45.9
tpwr	59	wp	16622.2
pw	6.000	rfl	10033.4
DECOUPLER		rfp	5815.0
dn	H1	rp	-154.7
dof	0	lp	-343.5
dm	yyy	PLOT	
dmm	w	wc	250
dpwr	39	sc	0
dmf	10900	vs	60
		th	3
		al	ph

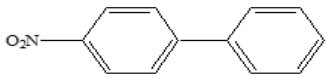


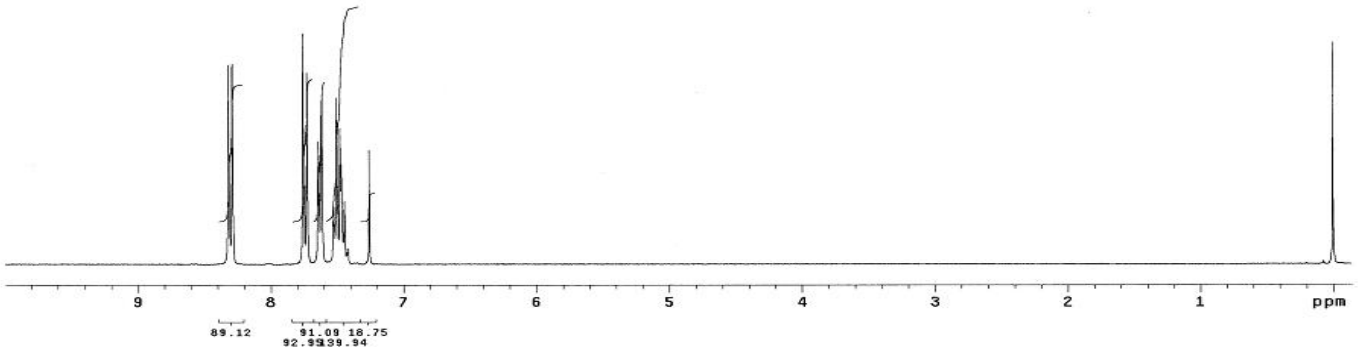


RMS-6-NO2

exp2 s2pul

SAMPLE		DEC. & VT	
date	Dec 28 2010	dn	H1
solvent	CDCl3	dof	155.1
file	exp	dm	nnn
ACQUISITION		dmm	c
sfrq	299.850	dmf	200
tn	H1	PROCESSING	
at	1.987	lb	0.10
np	23864	fn	not used
sw	6006.0		
fb	not used	werr	
bs	2	wexp	
pw	4.0	wbs	
pw	4.0	wnt	
tpwr	58	DISPLAY	
d1	0	sp	-42.5
tof	1200.0	wp	3041.1
nt	640	vs	54
ct	64	sc	0
alock	n	wc	250
gain	36	hzmm	12.16
FLAGS		is	1686.93
il	n	rfl	351.5
in	n	rfp	0
dp	y	th	1
		ins	60.000
		nm	ph

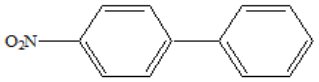


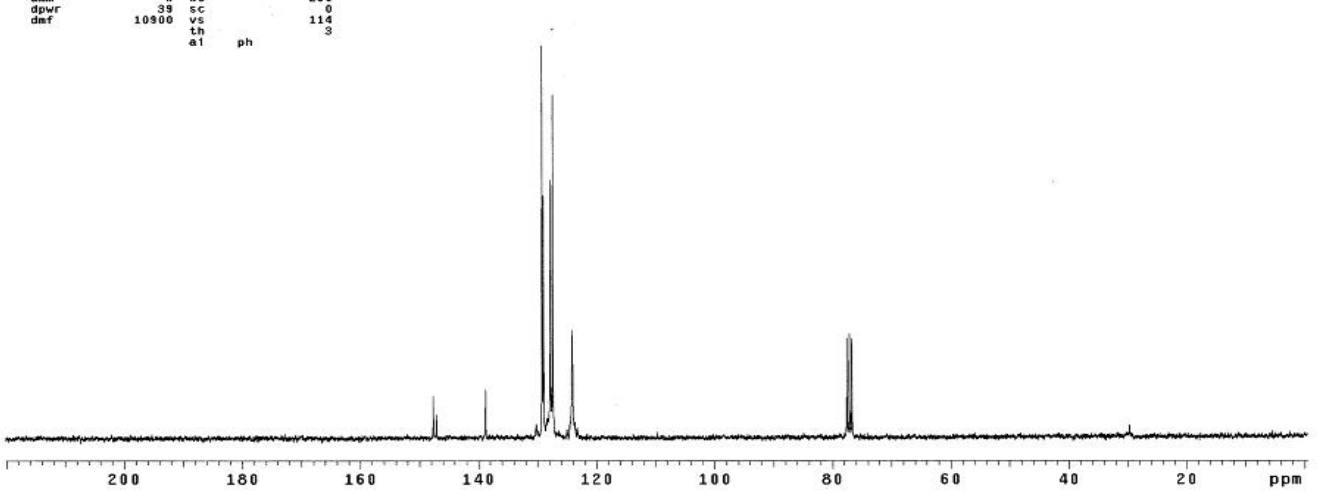


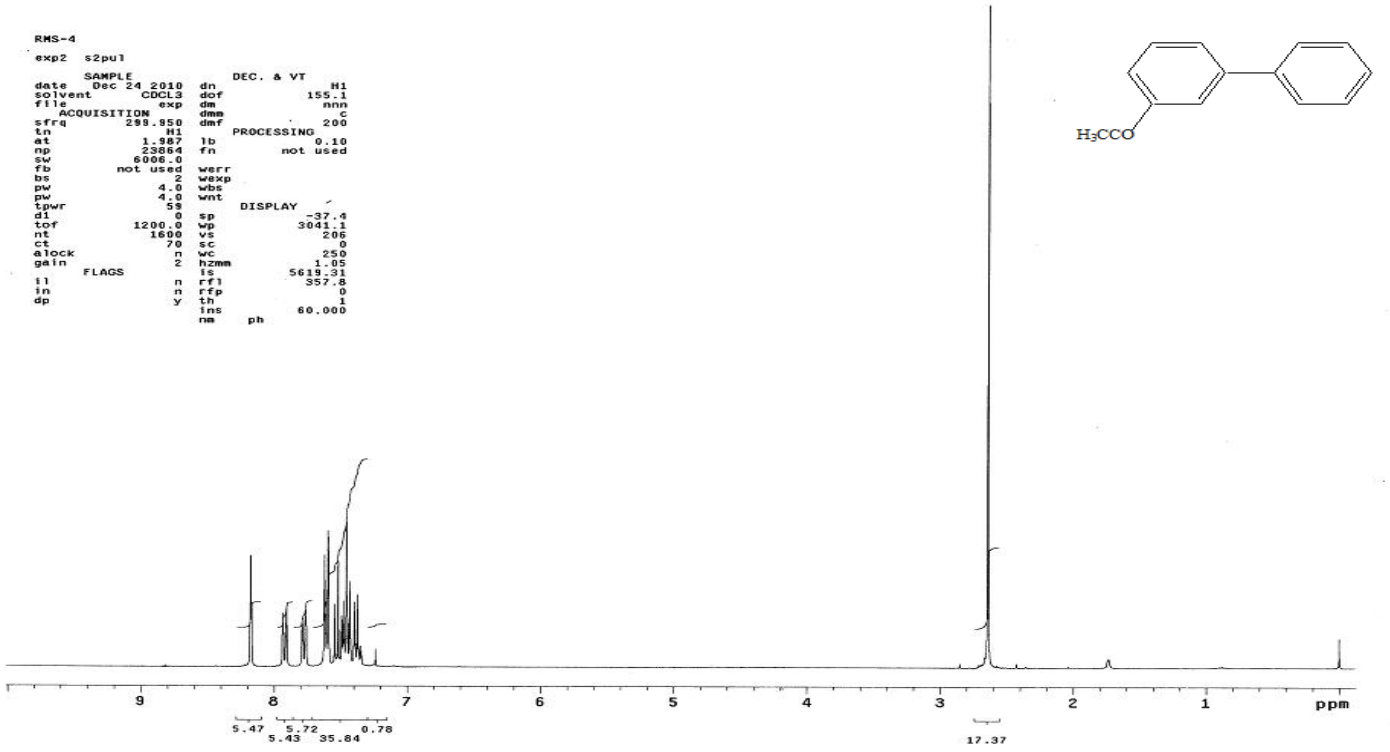
RMS-6-NO2

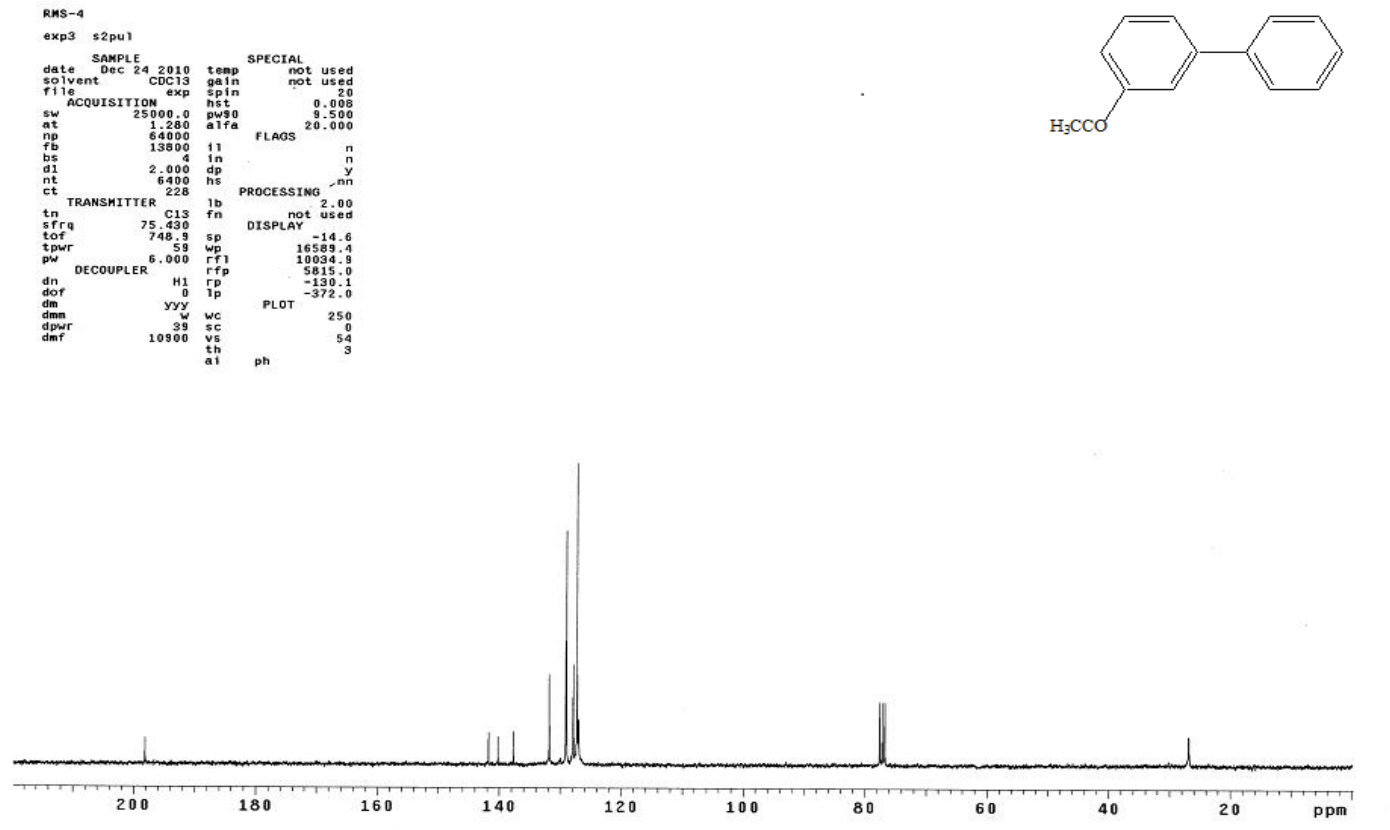
exp3 s2pul

SAMPLE		SPECIAL	
date	Dec 28 2010	temp	not used
solvent	CDCl3	gain	not used
file	exp	spin	20
ACQUISITION		hst	0.008
sw	25000.0	pw90	9.500
at	1.280	alfa	20.000
np	64000	FLAGS	
fb	13800	il	n
bs	4	in	n
d1	2.000	dp	y
nt	6400	hs	nn
ct	600	PROCESSING	
TRANSMITTER		lb	2.00
tn	C13	fn	not used
sfrq	75.430	DISPLAY	
tof	748.9	sp	-41.3
tpwr	59	wp	16643.5
pw	6.000	rfl	10034.9
DECOUPLER		rfp	5815.0
dn	H1	rp	-132.0
dof	0	lp	-373.1
dm	yyy	PLOT	
dmm	w	wc	250
dpwr	39	sc	0
dmf	10900	vs	114
		th	3
		al	ph









RMS-5

exp2 s2pul

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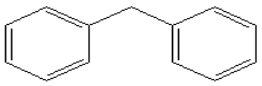
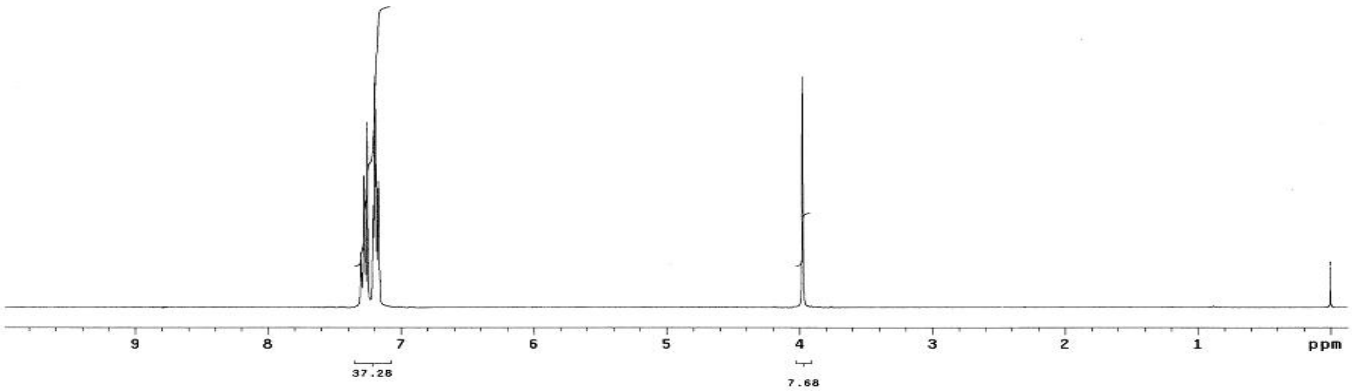
date	Dec 24 2010	dn	H1
solvent	CDCL3	dof	155.1
file	exp	dm	nnn
ACQUISITION		dmm	c
sfrq	299.950	dmf	200
tn	H1	PROCESSING	
at	1.987	lb	0.10
np	23864	fn	not used
sw	6006.0	werr	
fb	not used	wexp	
bs	2	wbs	
pw	4.0	wnt	
pw	4.0	DISPLAY	
tpwr	59	sp	-39.2
d1	0	wp	3034.2
tof	1200.0	vs	56
nt	1600	sc	0
ct	76	wc	250
alock	n	hzmm	0.27
gain	2	is	7918.18
FLAGS		rfl	365.8
il	n	rfp	0
in	n	th	1
dp	y	ins	60.000
		nm ph	





RMS-5

exp3 s2pul

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file	exp	spin	20
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sw	25000.0	pw90	9.500
at	1.280	alfa	20.000
np	64000	FLAGS	
fb	13800	il	n
bs	4	in	n
d1	2.000	dp	y
nt	6400	hs	nn
ct	124	PROCESSING	
TRANSMITTER		lb	1.00
tn	C13	fn	not used
sfrq	75.430	DISPLAY	
tof	748.9	sp	8.3
tpwr	59	wp	16556.5
pw	6.000	rfl	10044.9
DECOUPLER		rfp	5815.0
dn	H1	rp	-145.5
dof	0	lp	-355.3
dm	yyy	PLOT	
dmm	w	wc	250
dpwr	38	sc	0
dmf	10900	vs	13
		th	3
		ai ph