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May 2020

LabChemistry_IS2_20160309_Camera2_Seg03.pdf

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Participants: IS2 (TA), S1 (female student, wearing a hijab), S2 (male student, pink shirt), S3 (female student), S4 (male student), S5 (female student), S6 (female student), S7 (female student), U1 (UGTA, male, dark shirt and pants), S9 (female student, long black ponytail), U2 (UGTA, girl, long blue skirt), S11 (male student), S12 (female student), S13 (female student), S14 (female student, brown ponytail), S15 (female student, dark blonde ponytail and black leggings), S16 (female student), S17 (male student, dark hair and short beard), S18 (male student), S19 (female student), S20 (female student), S21 (male student, dark close-cropped hair and short beard), S22 (female student), S23 (female student), S24 (male student), S25 (female student), S26 (female student, long straight black hair and gray shoes), S27 (male student), S28 (female student), S29 (male student), S30 (female student), S31 (female student), S32 (female student, long black hair), S33 (female student), S34 (female student), S35 (female student)

Context: IS2 is walking around helping students with their chemistry labs.

0:00

XXX	IS2:	so,
XXX		everything is-
XXX		your solution has some (.) acetone inside it?
XXX		so that's why y-
XXX	S1:	the hexanes and I put it into the (glass) that's why
XXX		I stopped it.
XXX	IS2:	yes.
XXX		you don't need to wash- with acetone.
XXX	S1:	oh:
XXX		it's all the way at the end.
XXX	IS2:	yes.
XXX	S1:	I thought- [cause I was like I need to clean-
XXX	IS2:	[okay. doesn't matter.
XXX		so the thing is you just run the TLC
XXX		right now,
XXX	S1:	okay.
XXX	IS2:	yes. [so: uh:
XXX	S1:	[so I don't need to do (the filtration)?
XXX	IS2:	you don't need to do a (filtration) a-anyway
XXX		so just run the first five.
XXX		okay?

XXX		((turns away))
XXX	S1:	thank you.
XXX	S2:	((undecipherable))
XXX	IS2:	-
XXX		did you got crystals?
XXX	s3:	yeah they already formed.
XXX		even before I added the cold.
XXX	IS2:	oh.
XXX		right here right,
XXX	s3:	yeah.
XXX	IS2:	I think it's-it's totally enough.
XXX	S3:	that's enough?
XXX	IS2:	it's enough.
XXX		[yeah.
XXX	S3:	[okay
XXX		so you want me to add my-
XXX	IS2:	yeah yeah yeah.
XXX	S3:	okay.
XXX		((pause))
XXX	S4:	is this supposed to crystalize right now,
XXX		or after you add the-
xxx IS	52: after yo	ou 个add.
XXX		that's why we need cold hexene right?
XXX	S4:	huh.
XXX		((pause))
XXX	IS2:	don't forget to uh: mark the: solid front.
XXX	S5:	mhm.
XXX		((pause))
COM	IS2:	the crystals come out?
XXX	S6:	hm?
XXX	IS2:	yes- so uh- yeah.
XXX		so uh: you can add some (.) cold hexene more?
XXX		to see whether you have more crystals?
XXX	S6:	mhm.
XXX	IS2:	-
XXX		cold hexene have you added.
XXX		I didn't even measure (it).
XXX	IS2:	really?
	S6:	I started like around here.
	IS2:	
	S6:	[okay.
XXX	IS2:	[so:
XXX		yes one (mil) more-after that t-do the filtration.
XXX		because we don't need to (connect) the crystals.

[okay XXX xxx S6: [okay yeah. xxx IS2: just- you get some and the- dissolve it and (spot) for the XXX last (.) spot. xxx S6: okay. ((pause)) XXX xxx IS2: uh: xxx three to one ratio (right) ((undecipherable)) XXX xxx S7: that-that's not the right (.) thing. xxx IS2: it's ((undecipherable)) right? 2:52 ((pause)) XXX 3:21 xxx U1: ((undecipherable)) xxx IS2: huh? xxx U1: y-you should be an actor. xxx IS2: no:! xxx U1: getting filmed and everything. ((laughs)) xxx IS2: you're wrong. ((laugh)) 3:30 XXX ((pause)) 4:18 xxx S9: what do we do with the crystals? xxx IS2: uh: just leave it-uh-discard it. XXX XXX we don't need this. xxx S9: uh solid waste? xxx IS2: uh: solid-solid waste. xxx S9: okay. xxx U2: what happened? xxx IS2: we don't need uh: sxxx U2: [crystals? no.] xxx IS2: [solid right-?] xxx U2: [no. no. 1 xxx IS2: [crystals right] just to leave to the: solid waste. XXX xxx U2: yeah. because ((undecipherable)) XXX 4:38 ((pause)) XXX 5:19 xxx S11: yeah right xxx IS2: yup?

```
xxx S11: how does this look
xxx is this good?
xxx IS2: it's good,
xxx you can do the filtration right now.=
xxx S11: =okay.
xxx S12: uh:
xxx IS2: yeah?
xxx S12: do I-
xxx S12: take it out using like
xxx IS2: j-just >take it out<</pre>
xxx and uh mark the solid front before you check with UV light.
xxx ((undecipherable))
xxx S12: okay.
xxx IS2: ((walks to another student))
         mark the- uh ↑hey!- mark the solid front!
XXX
xxx S13: ((undecipherable))
xxx IS2: because-
xxx S13: I just ((undecipherable))
xxx IS2: oh you don't put it into the: [chamber?
xxx S13:
                                      [no.
xxx IS2: okay.
        ok ok ok ((undecipherable))
XXX
         ((pause))
XXX
6:00
xxx IS2: oh: you got so much solid.
xxx ((S14 and IS2 both laugh))
xxx IS2: congratulations.
xxx S14: thank you.
xxx IS2: ((laughs))
xxx S14: so: just dissolve and then,
xxx [that's it?
xxx IS2: [uh:
xxx you can- do you have the:-
xxx S14: yeah they're (.) little-
xxx IS2: just-jus
xxx S14: this?
xxx which one?
xxx IS2: no (.) uh:
         (.2)
XXX
        you can use spatula.
XXX
        to: (swirl) it
XXX
        make sure you-
XXX
XXX
        it is (up)?
xxx S14: yeah I think so.
```

```
xxx IS2: so you can add more.
xxx S14: oh add more?=
xxx IS2: =yeah add more.
xxx S14: I added two scoops of the ((undecipherable))
xxx IS2: ah: ah I-I think you can add more.
xxx S14: okay.
xxx IS2: because i-if your concentration is-is-is low so,
        maybe need to spot for seven times
XXX
         but uh- if your concentration is high,
XXX
XXX
         maybe: it's better.
xxx S14: [(but you don't-it-)
xxx IS2: [I-I think it's fine yeah.
xxx S14: it-
xxx IS2: but you don't need to (worry about that)
xxx S14: we don't need that right,
xxx IS2: just discard-
xxx S14: okay.
xxx IS2: discard to the solid waste.
xxx S14: yeah it dissolves quickly.
xxx U1: is that right?
xxx S14: yeah.
xxx IS2: okay.
xxx just-uh
xxx S14: (spot) it
xxx IS2: do- for the last one?
xxx S14: yeah.
xxx IS2: and uh check with UV light before you put it in the
        chamber?
XXX
xxx S14: okay.
xxx IS2: uh okay
xxx and the chamber- th-the-the-
xxx S14: (this one right)
xxx IS2: the solvent is three to one ratio?
        it's different from the part a?
XXX
XXX
        and (you need to prepare for anoth-another one)
xxx S14: so: that's another ten mil?
xxx IS2: [ten mil yes.
xxx U2: [you could do twelve.
xxx IS2: twelve is fine- twelve is-is [easier to calculate.
xxx S14:
                                      [easier yeah
xxx IS2: yes.
        yeah.
XXX
xxx S15: I think a little bit of the solution got in my glove?
xxx cause I feel it in my glove.
```

(bromine)? xxx IS2: xxx U1: wash your- with cold water- cold water xxx S15: the bromine-I washed cold water and then I-XXX but I can feel like my finger-fingertips like XXX xxx U2: it's fine. XXX just keep washing with cold water. xxx U1: could beyeah just keep washing with cold water? XXX xxx IS2: uh:: xxx U1: if it doesn't go away in three minutes (.) come back. xxx U2: just keep it under cold water. xxx S15: okay. xxx U1: come back don't leave if it still hurts. XXX [okay] xxx S15: [okay] xxx U1: cold water xxx S15: yeah xxx U1: for like three minutes xxx S1: um xxx IS2: yeah xxx S1: now that I'm done with this, xxx do I check it under the UV light? xxx IS2: yes sure. xxx S1: and then for the r f value? xxx IS2: uh:: xxx S1: what-which do Ixxx IS2: calculate? xxx S1: yeah. xxx IS2: so: um: xxx this is solvent front right? xxx S1: mhm. xxx IS2: and this is origin. XXX so: uh: XXX the distance between here is the: uh**::** CLF CLF (.3) CLF this is numerator right? xxx S1: hm?. XXX yeah I did that one already xxx IS2: this is numerator \downarrow and this is the: if you have (this spot) right here? XXX xxx S1: mhm. xxx IS2: and uh-also-uh:

```
lemme draw for you.
XXX
          so-uh:-he-right-
XXX
          suppose (.) this is solvent front?
XXX
xxx S1:
          mhm.
xxx IS2: oh this is- do you have pencil?
         sorry.
XXX
xxx S1:
        um: she has (pencil) over there.
xxx IS2: okay
         uh:
XXX
         (the standard)
XXX
          if you have the solvent right
XXX
xxx S1: mhm.
xxx IS2: uh it's ((undecipherable)) right here.
        and uh you need to calculate this
XXX
         fro:m this,
XXX
         to here.
XXX
xxx S1:
        mhm.
xxx IS2: not just the middle of the spot.
xxx S1: okay.
xxx IS2: just (.) calculate the: front .
xxx S1: mhm
xxx IS2: of you:r spot.
xxx S1: that's what I use for this experiment?
xxx IS2: yeah for all the experiment.
xxx S1: okay
xxx IS2: also for the fin- a
xxx S1: [okay that's what I did.]
xxx IS2: [you need to calculate ] [rf right (.) here.
xxx S1:
                                   [that's what I did for part a.
xxx IS2: yes. yes.
xxx S1: so for part b the rf volume-
xxx IS2: it's the same.
xxx U1: did you get crystals or-
xxx IS2: [no.
xxx S1: [no: so he said to omit that step.
xxx IS2: because he used acetone to wash the-
xxx S1: yeah:
xxx U1: oh she used acetone?
xxx IS2: [yes
xxx U1: [yeah: to like clean my cylinder.
xxx IS2: acetone will mess up the reaction.
xxx U1: it's only eleven.
9:01
xxx IS2: uh:
```

she can do it again. xxx U1: xxx S1: (uh:) xxx IS2: but- I think you can check the: first five spot. xxx S1: uh huh. xxx IS2: if it is (.) strong? XXX you still have time to run another reaction? xxx S1: okay. xxx IS2: but (it is right-) I think- so: xxx I think (.) they need to do: xxx U1: y-you're saying that at the end she'll just omit the crystallization step? XXX xxx or like take from someone else's? ((laugh)) xxx IS2: uh:: xxx U1: [because look- no matter what xxx S1: [cause I- I put it in ((undecipherable)) xxx U1: she's not gonna have the crystallization part, xxx S1: yeah: xxx IS2: yes.= xxx U1: =right?= xxx IS2: =yes. xxx U1: I mean if the others are perfect, XXX she could skip it. xxx IS2: uh:, xxx U1: but xxx IS2: [okay xxx S1: [but like how would I do it xxx IS2: did you- did you check the: UV light, already? xxx U1: you didn't run the ((undecipherable)) she didn't run the ((undecipherable)) yet. XXX xxx S1: [no no I ran it Ixxx IS2: [she run already- ran already. xxx S1: I ran it and now I'm gonna try ((undecipherable)) xxx U1: oh okay go ahead try it. xxx IS2: (yeah you) just check it. xxx U1: let me-lemme walk with you. xxx S1: okay. xxx S16: uh: we hand in the TLC plates on the due date right? xxx we just hand in these today? xxx IS2: yes. XXX uh: TLC plate is due: uh: two weeks ago-? XXX uh two weeks later? XXX xxx S16: okay. xxx IS2: uh:

```
this is-this is your last T-TLC plate?
XXX
xxx S16: mhm.
xxx ((pause))
xxx IS2: standard?
xxx so fo-for the standard you got two?
xxx S16: yeah.
xxx IS2: uh-it's just like this one right?
xxx S16: yeah [it's just like that.
              [I don't think it's- it's two
xxx IS2:
      because uh maybe (.) your solution is (.) too concentrated
XXX
        it has a tail.
XXX
xxx S16: may:be:
xxx IS2: so the ((undecipherable)) but
xxx uh: still it's uh:
xxx it's still a one spot.
xxx S16: it's still one spot? [okay.
xxx IS2:
                             [yes.
       right right right right.
XXX
        good.
XXX
xxx S16: okay.
xxx S17: uh
xxx IS2: oh?
xxx S17: (I don't need) the rest of this right?
xxx IS2: did you (grow) some crystals already?
xxx S17: yeah I put them in the filter already
xxx and I got them there
xxx IS2: okay you don't need this.
xxx S17: okay.
xxx IS2: just a little bit.
xxx S17: alright.
xxx ((pause))
xxx IS2: ((to S18))
xxx any crystals?
xxx S18: yeah.
xxx IS2: oh you have.
xxx okay just do your filtration.
         ((pause))
XXX
XXX
        cool.
xxx S18: is it this one?
xxx IS2: yes.
xxx ah no no no sorry. this one.
xxx S18: oh.
xxx IS2: <u>all</u> the way.
XXX
        yup.
```

```
xxx S19: is this enough or do I need to-
CLF IS2: oh it's enough.
xxx S19: enough?
xxx IS2: yes.
xxx S19: okay.
xxx IS2: do the filtration?
xxx U2: so how's it going?
xxx IS2: it's good.
          huh?
XXX
xxx U1: her uh-
xxx IS2: is her reaction good?
xxx U1: it was good.
xxx IS2: it's good?
xxx U1: yeah.
xxx check it out.
xxx U2: wait so you <u>did</u> have fumerate.
xxx U1: uh: [((undecipherable))
xxx U2: [that's pretty good!
xxx IS2: it's good.=
xxx S1: =really?
xxx U1: she just didn't get crystals.
xxx U2:
           [yeah.
xxx IS2: [yeah.
xxx S1: I don't know why.
xxx U2: honestly just take someone else's results.
xxx S1: really?
xxx IS2: b-I think the m acetone messed up your-her reaction.
xxx S1: yeah I-I'm pretty sure
xxx basically what happened=
xxx IS2: and also some (.) water right?
xxx S1: um I needed to put in the um the (.)
          the cold hexenes and,
XXX
          literally just from the c-cylinder to a beaker,
XXX
xxx U1: yeah.
xxx S1: so I cleaned my cylinder with acetone,
xxx U1:
           [oh.
xxx U2: [oh that's probably why.
xxx S1: but it (got stuck),
xxx IS2: yeah.
xxx U1: [couldn't she just borrow someone's crystals?
xxx U2: [I mean honestly
xxx I would say just borrow someone's crystals.
xxx S1: okay.
xxx U2: oh but you already did it
```

```
yeah I did ((undecipherable))
xxx S1:
         she already did the ((undecipherable))
xxx U1:
xxx S1: cau-cause I didn't [((undecipherable))]
xxx IS2:
                             [I think doesn't matter
12:00
XXX
          so maybe [you will use-
xxx U2:
                   [oh well you could redo it
xxx IS2: redo it?
xxx U2: it won't-it won't go up anymore will it?
xxx U1: yeah it will [uh:
xxx IS2:
                       [twenty minutes?
xxx U1: if you redo the: [((undecipherable))
                           [OH I see
xxx IS2:
xxx so you don't t- you don't need to do the:
XXX
         [the first five you just-
         [so what I say is just circle these dots,
xxx U2:
xxx S1: mhm.
xxx U2: put the crystal there,
xxx S1: okay.
xxx U2: redo the (.) chamber,
xxx S1: till it comes to the solvent front,=
xxx U2: =yeah.=
xxx S1: =and then
          okay alright. i'll try that.
XXX
xxx U2: [that would work right?
xxx U1: [as long as-
         as long as that's dry currently.
XXX
xxx S1:
          yeah.
xxx U1:
        well,
xxx U2:
         [yeah it has to dry.
                                                1
xxx U1: [it's- but it's already saturated with-]
xxx IS2: [uh::
xxx U1: [the liquid]
xxx U2: it should work-
xxx U1: [why doesn't she just-
xxx U2: [no no no it should work
         because remember last semester,
XXX
         someone used the wrong solvent-
XXX
          ((to S1)) sorry- y-you do whatever-
XXX
xxx S1:
         okay.
xxx U2: someone used the wrong solvents,
          and
XXX
XXX
         the-the chamber was already saturated.
xxx IS2: uh huh.
```

```
xxx U2: but me and Yao redid it,
xxx IS2: ((nods))
xxx U2: and it still worked.
xxx with the right solvents.
xxx IS2: uh huh.
          [but- uh-
XXX
xxx U1: [so
         we could [((undecipherable)) we could do that
XXX
xxx IS2:
                    [she: can borrow some solvent-
xxx so-[crystals from others okay?
xxx U1:
              [mhm.
xxx U2:
              [yeah she can borrow solvents crystals from someone else
xxx IS2: uh if-if you want- so:
         you can do this,
XXX
xxx S1: okay.
xxx IS2: uh you can re-(.) rerun your TLC plate,
xxx S1:
         okay.
xxx IS2: [>it doesn't matter<</pre>
xxx U1:
          [or
xxx IS2: so: yeah.
xxx you can do this.
xxx S1: [I-I'll do that.
xxx U1: [or she can just get a small skinny one and staple it on.
xxx U2: yeah.
           like if this [doesn't work,
XXX
xxx IS2:
                        [doesn't matter.
        you can-you can rerun your TLC plate two times.
XXX
           it doesn't matter.
XXX
xxx U1: [uh huh alright okay
xxx U2:
         [that's what I'm saying ((undecipherable))
xxx IS2: [yeah yeah yeah (it should be alright
xxx U1: it's same plate yeah?
xxx S1:
          [yeah]
xxx IS2: ah so m-m-m-my-my-my (point) is
XXX
           if you can
           just (.) borrow some
XXX
xxx S1:
          [okay.
xxx IS2: [crystal from others,
xxx U2:
         that's what I thought yeah
xxx IS2: [okay.]
xxx S1: [um ]
          [it should work
xxx U2:
                             ]
xxx S1: [just one question] is it the top circle or the bottom-
xxx U1: [both.
```

```
xxx U2:
          [both.
xxx S1:
          oh both.
xxx U1: circle [them both
                 [if it's light circle, do dotted lines.=
xxx U2:
xxx U1: =do a dotted line.
xxx S1: okay.
xxx U1: so [uh
xxx IS2:
             [uh-just uh:,
xxx U1:
          [(.) you're
xxx IS2:
         [so I-I-I-I think the-the point is so:
          you can outline the:
XXX
XXX
          the first five spot. [right now.
                               [mhm.
xxx S1:
xxx IS2: [because this is the f-first one
xxx U2: [yeah that's what-that's what I'm saying. (.) yeah.
xxx IS2: and-and you can calculate the RF value right?=
xxx S1:
         =mhm.
xxx IS2: so (.) after you run th- another time
         the:-the first five spot will run again-,
XXX
          will-will [run higher
XXX
                    [yeah ((undecipherable))
xxx U2:
xxx U1:
                    [((undecipherable))
          but uh- [but you don't need
xxx IS2:
                  [((undecipherable)) calculate the:
xxx U2:
         [original lines?
xxx S1:
                                         1
xxx U2: [y-you calculate the ones you s-]
xxx U1:
         [you already had the circle so ((undecipherable))
xxx S1:
         [oh::.
xxx U2: [you- you calculate the ones ((undecipherable))
xxx IS2:
          [yes.
xxx U1: but no this-
xxx IS2: you can now react (beyond) the second time.
xxx U1: they do they uh they check the uh
         they check the plates.
XXX
xxx U2: do they?
xxx U1: they-they yeah they check the plates for the distributions.
        [like for the spots.
XXX
xxx IS2: [uhn: just outline right now?
xxx S1:
          okay.
xxx U1:
          ſ
xxx IS2:
          [and uh: for the last spot- so:
xxx U1:
          Γ
         [(maybe she was) right
xxx U2:
xxx IS2:
         [borrow some from others and uh: outline the last one
```

only last one. XXX [you don't need to-you don't need to outline the first five XXX [((undecipherable)) xxx U1: [((undecipherable)) xxx U2: xxx S1: okay. xxx IS2: after you run the s-second time xxx S1: so I just do the last one? [yep. xxx U1: 1 xxx IS2: [just do the last one.] [okay okay XXX xxx U1: [why doesn't she just uh use like a skinny one for her crystals? XXX like the small TLC plate [and do only crystals XXX xxx U2: [and just attach it ? XXX yeah. [she could do that too. XXX xxx U1: [and then she could staple it onto that TLC plate xxx IS2: but-the thing is she needs to dissolve the-uh: those crystals right? XXX yeah [yeah xxx U1: xxx U2: [yeah xxx U1: so I'm saying instead of running it on the same plate, [that she could just XXX xxx IS2: [you can run a smaller plate [yeah yeah xxx U2: xxx IS2: but I thinkthe thing is- the: XXX they need to hand out the TLC plate right? XXX xxx U1: yeah. xxx IS2: [and uh xxx U2: [oh you xxx IS2: [we-we need the complete one. [why can't she just hand in both of them xxx U2: xxx IS2: [((undecipherable)) xxx U1: can she-yeah can't she just staple it together ((undecipherable)) XXX xxx IS2: oh uh yeah it's fine too. yeah it's fine too XXX xxx U2: just do both. xxx S1: okay. xxx U2: [run it this one twice xxx IS2: [yeah yeah you can another-another TLC plate xxx U2: [((undecipherable)) xxx U1: if she runs this one twice then they- if they check the uh:

if they [do check under UV XXX xxx U2: [that's what I ((undecipherable)) xxx U1: they check this right? xxx have you graded this one before or no? xxx IS2: no. xxx U1: cause they do check under UV XXX uh they check [your spots xxx S1: [((undecipherable)) xxx IS2: [yeah. xxx S1: [oh this is a little (.) heavier. 15:00 XXX these-[this one's dotted. xxx U2: [okay let's move away. xxx S1: [sorry xxx IS2: [yeah yeah yeah. sorry. xxx U2: [so people can use the thingy xxx U1: they do check the spots. so I'm thinking instead of doing it on here XXX just do one skinny one and attach it [on XXX xxx IS2: [oh yeah yeah yeah xxx S1: [okay xxx IS2: you can do a separate- you can use a new uh: xxx IS2: [TLC plate small-xxx U1: [yeah s- you have another small TLC plate right yeah mhm xxx S1: xxx U1: [just use that xxx IS2: [just use that a:nd do the- [((undecipherable)) last one xxx U1: [do only crystals (on that) xxx IS2: [just do crystals yeah yeah yeah yeah. xxx U1: [and don't-don't run this. xxx S1: don't run this one. xxx U1: yeah don't run it. xxx S1: okay. XXX thank you guys so much. xxx U1: right-right-you agree? xxx IS2: yeah yeah yeah yeah. definitely. 15:27 ((pause)) XXX 15:55 xxx S20: (is this right) xxx IS2: oh. xxx S20: ((undecipherable))? xxx IS2: I think it's all right. xxx S20: okay.

it's good. XXX xxx S20: thank you. oh how about this one-this first one? XXX xxx IS2: uh discard to the: solid waste. xxx S20: okay. xxx IS2: [we don't need to (carry) them. xxx S20: o[kay xxx IS2: [okay xxx S20: thank you. 16:14 XXX ((pause, IS2 walks around)) 16:35 xxx IS2: did you finis? xxx S21: u:m yeah just- I'm almost done. xxx I'm just (.) waiting for it to like dry a little bit. xxx IS2: okay oh your crystals right xxx S21: yeah yeah. xxx IS2: okay. 16:42 XXX ((pause, IS2 walks around)) 17:00 xxx IS2: are you doing the last one? xxx S22: yeah. xxx IS2: okay. xxx S22: I did it (already). xxx IS2: uh huh. xxx so: this is a: three to one ratio?= xxx S22: =yeah= xxx IS2: =okay. XXX use- uh: use uh forceps. ((pause)) XXX good. XXX ((pause)) XXX xxx IS2: yeah? xxx S23: I was wondering why: this doesn't have a results sheet at the very end XXX this was last week's lab-XXX xxx see it's one [nineteen CLF IS2: [you mean the report form? CLF S23: one twenty- yeah CLF IS2: oh no: report form, which-which-CLF xxx S23: this was the:xxx for uh (myristic) acid from ((undecipherable)).

I was um- I'm getting the (myristic) acid melting XXX XXX point now? cause that's what we have to do today right? XXX xxx IS2: yes. xxx S23: yeah the (myristic) acid 18:00 XXX but there's no result form. I was really confused see it just-CLF CLF IS2: yeah yeah yeah um- me too. CLF [u:m CLF S23: [it says one twenty and then it-like- the pages are right, CLF IS2: ((almost a direct echo of her intonation/tone)) CLF the pages are right, CLF S23: yeah they're completely right. CLF [that's so-TTF IS2: [there should be no. CLF S23: there should be no result form? xxx IS2: yes. xxx S23: [uh: xxx IS2: [if the-if the number is right, xxx that-so xxx S23: oh okay so I just [((undecipherable)) xxx IS2: [you don't need to (think about this) xxx okay? xxx S23: okay [thank you. xxx IS2: [uh:, uh. 18:20 XXX ((pause, no exchanges)) 19:25 xxx S24: ((undecipherable)) cause it says to dissolve the crystal? xxx IS2: oh you can get someso after you do the- after you finish the filtration XXX you can get some crystals from the filter paper? XXX and dissolve with methylene chloride. XXX and uh: use another solution to do the last spot. XXX xxx S24: oh: xxx IS2: you know what I mean? xxx S24: oh. xxx IS2: so just- uh you can use cold hexene XXX to uh swirl it? and then pour into the (.) filter paper XXX ((to UGTAs)) XXX oh! XXX has someone (.) uh: left already? XXX

xxx U2: yeah. xxx IS2: th-they need to- they need to: measure the melting point for the myristic acid. XXX for last experiment. XXX and also they need to wait XXX xxx U2: oh [(you're) right xxx IS2: [(I forgot it) xxx U2: she can do it next week at the beginning of lab. xxx IS2: so: how about the rest of them xxx U2: yeah they are good. xxx U1: sorry what? xxx U2: they're doing melting point of myristic acid. xxx IS2: and they-they need to measure the melting-uh mixed melting point right? XXX xxx U1: [should I- should I shout? xxx IS2: [but some of them are left uh: xxx U2: only one person left. xxx IS2: only one? xxx U2: yeah. xxx IS2: really? xxx U2: only left. xxx U1: only one. xxx IS2: okay. xxx U1: alright ((undecipherable)) xxx IS2: just-just give them some. xxx U1: ((to class)) guys when you're done with your experimentation, XXX you do melting point XXX o:f myristic acid, XXX mixed melting point. XXX xxx IS2: [and w-wait-wait ((undecipherable)) [stuff like that xxx U1: make sure you weigh it. XXX you still have to finish your last week's lab. XXX they can-they can actually do it next time because u:m XXX xxx IS2: yeah yeah yeah I think so. xxx U2: [they <u>can</u> do it next time? xxx U1: [because they have another week because uh: XXX xxx IS2: next week xxx U1: [((undecipherable)) xxx IS2: [we have spring break right xxx U1: yeah yeah next week is spring break. but uh next time when we come in, XXX

```
it's trimyristic.
XXX
xxx IS2: what is (next experiment)?
xxx U1: oh next-
xxx U2: next experiment-
xxx IS2: beta carotene?
xxx U1: beta carotene yeah.
xxx IS2: beta carote:::ne.
21:00
         ((pause, no exchanges))
XXX
21:39
xxx S25: the myristic acid is what we did from last time
xxx right?
xxx IS2: yes
xxx S25: [(so it should be what we crystalize?
xxx IS2: [yes
        you ((undecipherable)) the:: tube.
XXX
XXX
          I think so right?
XXX
        so you need the weight of your (.) sample?
xxx S25: oh [okay
xxx IS2: [and do the (subtraction)?
xxx yeah this is you:r
xxx S25: okay.
21:54
         ((pause, no exchanges))
XXX
22:20
xxx IS2: ((yawn)) did you guys get crystals?
xxx S26: hm? yeah [(our thing)
xxx IS2:
                  [okay.
xxx S26: but it's-uh-it's kind of orange though.
xxx [why is it orange?
xxx IS2: [kind of orange?
        so:
XXX
        you need to wash with acetone until you've got white.
COM
COM S26: acetone?
COM IS2: uh no sorry.
xxx S26: [oh
xxx IS2: [uh: cold hexene.
xxx S26: oh till I get white?
xxx IS2: you wash it, (.) until you've got, (.) white.
xxx S26: okay alright.
        cause I-I thought I already used too much.
XXX
        so:
XXX
xxx IS2: no.
xxx use micropipette!
```

don't use this one [to do the TLC plate okay? XXX xxx S26: [oh. °that's why.° XXX it's totally wrong. xxx IS2: [((laugh)) XXX xxx S26: [um I don't have a new one. XXX [I don't-XXX xxx IS2: [oh: you don't have a new you can get (.) some (.) more (.) from the: XXX the other TA, XXX xxx S26: but I-I uh- I used the: pipette [for the XXX [you use the micropipette to do the first five? xxx IS2: xxx S26: the twenty. the ten and the twenty. XXX xxx IS2: oh. XXX just make sure it is-it is not overlapped. [the spot is not overlapped.] XXX xxx S26:[个I know! 1 [it's not overlapping. XXX 1 [it's not overlapped right?] xxx IS2: xxx S26: m m [((undecipherable)) in the UV. XXX xxx IS2: [okay that's fine-that's fine. xxx S26: okay uh: micropipette. xxx IS2: micropipette. so this is standard uh: way to do the TLC okay? XXX xxx S26: okay. xxx IS2: ((laughs)) don't use-XXX ((pause)) CLF S27: are we supposed to transfer step twelve intointo um this? CLF CLF IS2: what? [twelve个 CLF xxx S27: [do you use the sol-how do you get the solution from here to here? XXX like (.) cause my crystals ((undecipherable)) XXX xxx IS2: use a spatula? get some? (.) uh:: transfer to the: uh: XXX tube. XXX you-you have (.) small tubes right, XXX xxx S27: uh: ye. xxx IS2: get-just use-just use a small tubes to dissolve your

```
solids.
XXX
XXX
          smaller one.
24:00
xxx S27: uh:
xxx IS2: do you have smaller one?
        ((pause))
XXX
xxx IS2: yes?
xxx (sure) yeah
xxx S27: just a little bit right?
xxx IS2: just a little bit.
xxx uh: I think- uh:
         a little more
XXX
        don't use a little bit.
XXX
         so it-it's-it's more than the (.) melting point.
XXX
XXX
          okay,
         uh: because,
XXX
XXX
          uh I-if you have more the concentration is high
XXX
          so the spot is more uh clear.
xxx S27: oh: okay.
24:31
         ((pause, no exchanges))
XXX
25:28
xxx S1:
        SO
xxx IS2: [yeah
xxx S1: [I got the crystals
xxx IS2: you got [crystals?
xxx S1:
                 [yeah
        crystals right here.
XXX
xxx IS2: uh:
xxx S1: (the) crystallization?
xxx IS2: uh::
        lemme see
XXX
         where's the:
XXX
xxx S1: (the other one个) right here
xxx IS2: the other one
XXX
          I need to compare them.
          ((pause))
XXX
          okay it's fine?
XXX
          uh:
XXX
          I think, uh:
XXX
          what you need to do, uh:
XXX
          the-the right way to do this is-is
XXX
XXX
          you have crystals?
          and also you have the-you should have a standard.
XXX
```

because you need to check whether your crystals is the XXX product right? XXX xxx S1: mhm. xxx IS2: so: you need to compare your crystals with uh: with standard. XXX xxx S1: mhm. xxx IS2: because standard is product. xxx S1: oh. xxx IS2: right? so: so yes. uh: XXX do you have extra TLC plate? XXX xxx S1: um xxx IS2: this is your last one? you can (use) a smaller one? XXX XXX i-i-is this clean? hm no this one's not clean. xxx S1: xxx IS2: you used this already? xxx S1: yeah because I accidentally used that [like I dropped it XXX xxx IS2: [okay. xxx S1: no xxx IS2: you don't have right, okay uh: XXX do you have (theses)? XXX xxx S1: um: xxx IS2: no xxx S1: I don't think they put any down there., xxx IS2: okay uh: I ((undecipherable)) get another TLC plate for you XXX xxx S1: okay xxx IS2: and I- you just run another time? uh y-you don't discard the: XXX [crystal solution right? XXX [no ((undecipherable)) yeah. xxx S1: xxx IS2: okay 27:00 just get some crystals from, (.) right here, XXX and also get some (.) standard solution XXX xxx S1: [so the fumerate? xxx IS2: [and run these two spot. fumerate yes. XXX just make sure- w-where the ((undecipherable)) are the same XXX RF value. XXX if it is then XXX

```
uh: you are done.
XXX
          [okay?
XXX
xxx S1:
          [okay.
xxx S28: excuse me, I have a question
xxx IS2: yeah.
xxx S28: at the end of this semester, is there any way I could do
          this
XXX
         crystallization lab again because my adaptor something's
XXX
         [wrong with it?
                               1
XXX
xxx IS2: [sure sure sure sure.]
xxx S28: and I-I didn't get much.
xxx [that's why.
xxx IS2: [we-we have um- we
     you don't get much so you want to make up
XXX
xxx S28: yeah [can I
xxx IS2:
               [okay
XXX
         you can uh send an email to ask uh doctor (chin)
          because-so at the end-normally at the end of the:
XXX
         of the-of the the-th-th-this class
XXX
         so if some-anyone uh:
XXX
          who's absent for this class will do the makeup
XXX
          but I'm not quite sure whether- (if you did it) already you
XXX
          got low yield whether you can (.) have another chance to do
XXX
          this.
XXX
xxx S28: okay.
xxx [so ((undecipherable))
xxx IS2: [((undecipherable))
xxx S28: Dr. Chang?
xxx IS2: Dr. Chang yes.
xxx S28: okay.
xxx IS2: okay?
xxx S28: got it thank you.
xxx IS2: yep
27:55
XXX
          ((pause))
28:21
xxx IS2: what happened?
xxx S29: uh: got something on my hand.
xxx IS2: wh-
xxx S29: I'm just gonna wash it in cold water.
xxx IS2: wh-wh-wh-wh-what solution?
xxx S29: I have no idea.
xxx IS2: okay.
xxx S28: [((undecipherable))
```

```
COM IS2: [if it turns red right
COM S29: what was that?
xxx IS2: it turns red
xxx S29: yeah it's just a little red.
xxx IS2: do you feel any con-uncomfortable?
xxx S29: not really.
xxx IS2: okay.
xxx S29: [so I'm good?
xxx IS2: [so just
xxx I think so
xxx S29: okay
xxx IS2: just wash with cold [water
xxx S29:
                              [oh still?
xxx IS2: until you (.) feel good.
xxx U1: what happened to you?
xxx S29: uh: I don't know what's on me.
xxx U1: [((undecipherable))
xxx S29: [I took off my glove- what
xxx U1: oh okay
xxx S29: yeah on my glove
xxx ((pause))
xxx IS2: what?
XXX
         oh sorry
XXX
        ((laugh)) uh-yea-you- (are waiting) the TLC plate right
xxx S30: um where should I put this does it matter?
xxx IS2: yes just leave it.
xxx S30: just anywhere?
xxx IS2: yes.
xxx S30: okay.
xxx IS2: and uh: right here yeah.
xxx S30: okay thank you.
xxx IS2: sure.
29:13
XXX
          ((pause))
29:37
xxx S31: can I ask a question?
xxx IS2: yeah.
xxx S31: so this is how mine came out,
xxx IS2: uh huh.
xxx S31: so which point should I use for the RF values?
xxx IS2: RF value okay so: uh:
     so this is obvious right?
XXX
xxx S31: right [that's ((undecipherable))
COM IS2:
                [so:
```

for the sample the front. COM COM S31: the front? COM IS2: the front. COM all the front. COM S31: all the front? xxx IS2: yes. xxx S31: but they're all the same is that okay? xxx IS2: yes. xxx S31: okay. 29:59 xxx IS2: because this is your standard this is the product right? xxx S31: mhm. xxx IS2: and uh your crystals is product xxx S31: [oh: xxx IS2: [so if they have the same value that- so that uh: proves your reaction is works. XXX xxx S31: okay. xxx IS2: okay xxx S31: thank you. xxx IS2: yeah XXX so: uh: XXX the-the-the point is don't use the middle one because XXX XXX it- sometimes your-y-your spot is-is- circle? xxx IS2: you get (.) circle? but sometimes this one right XXX so if- for this one if you use the circle that's XXX totally wrong right XXX xxx S31: right. xxx IS2: because- the reason why you have this one because your concentration is too high. XXX it has a tail. XXX [right? XXX xxx S31: [okay. xxx IS2: concentration is too high XXX so maybe if you have uh: (dilute) solution maybe it's only a XXX XXX only a circle right here. xxx S31: mhm. xxx IS2: so this is not (.) the-the thing. xxx S31: okay. xxx IS2: okay? xxx S31: alright. xxx IS2: yep.

((pause)) XXX so: uh: we only had the: bigger one XXX xxx S1: okay. xxx IS2: okay: just do this one? XXX xxx S1: okay. xxx IS2: okay. xxx U1: ((undecipherable)) xxx S1: [((undecipherable)) xxx IS2: [so- my suggestion is uh: he only run the crystals. XXX xxx U1: yeah. and I-I think the best way for you is (.) ixxx IS2: they can compare the crystals with the standard. XXX just make sure (.) they are-because XXX she needs to make sure the crystals is the product right? XXX XXX so: the other point it sh-uh this one should be the: XXX xxx S1: [standard. xxx IS2: [standard (.) fumerate right? xxx U1: right I see that but wouldn't itcause she has the RF values. XXX so [((undecipherable)) XXX [it's just RF values xxx U2: so all you need is the RF value. xxx U1: when you calculate [right? XXX xxx U2: [yeah. xxx U1: do-do you think she actually needs to run the: y-you don't need ((undecipherable)) here XXX xxx IS2: [oh the RF values is [((undecipherable)) xxx U1: [yeah my RF value was um xxx S1: [point eight eight. XXX xxx U2: [are they the same for this [and the center xxx IS2: [oh you so if-if this have the same value XXX xxx U2: [as the standard xxx U1: [((undecipherable)) RF value xxx IS2: okay it's fine too. xxx U1: I think it's [fine. xxx IS2: [fine but-but I think it's-so if theyuh if they do this one it (it's very clear XXX XXX right [yeah yeah yeah xxx U1:

```
xxx IS2: [((undecipherable))
xxx visually it's very clear right
xxx U1: yeah yeah visually
xxx IS2: so it has to have a ((undecipherable)) right
xxx so yeah it's fine too
xxx U1: yeah
xxx IS2: [as long as they have the-
xxx U2: [don't th((undecipherable))
xxx IS2: it should not.
xxx U1: no they shouldn't.
xxx U2:
         they shouldn't.
xxx U1: ((undecipherable))
xxx U2: okay
xxx S1: so do we have to cu-um calculate an RF value at the end?
xxx U1: you could calculate it at home if you want.
xxx S1: oh [okay.
xxx IS2:
            [okay.
xxx U1: just make sure you write your measurements in your lab
         notebook.
XXX
xxx S1: okay.
xxx U1: so you get the measurements in your lab notebook.
xxx S1: I need the measurements [of all of these
                                 [((undecipherable))
xxx U1:
                                  [what is this one
xxx U2:
xxx S1: oh that was- I messed that up.
         cause it-it fell.
XXX
         [yeah
XXX
xxx U2:
          [oh: that's why you used the medium one
xxx S1: yeah
xxx IS2: okay just do the melting point right now?
xxx S1: okay.
xxx IS2: okay so yeah.
        ((pause))
XXX
xxx S32: ((undecipherable)) I don't know what's wrong.
          it doesn't wanna filter.
XXX
          you um the- there's was crystals in the bottom?
XXX
          so what I did I took it out,
XXX
          and then like (.) put it here and then um
XXX
          [((undecipherable)) back again.
XXX
xxx IS2:
          [uh- y-
xxx S32:
          I don't know why it's not filtering.
32:50
          ((pause, can't hear anything))
XXX
33:05
```

```
xxx IS2: I think [it's fine.
xxx S32:
                [yeah
xxx [it's fine? it's good now?
xxx IS2: [so:
xxx it's good now,
        and just get some,
XXX
XXX
         and dissolve with methylene chloride.
xxx S32: no I already did that.
xxx IS2: you already did that?
xxx S32: uh huh
xxx IS2: okay just start for the last one?
xxx S32: yeah.
xxx IS2: okay.
xxx we don't need to (collect) them.
xxx just discard it to the solid waste.
xxx S32: oh wow.
xxx IS2: okay?
xxx S32: okay.
xxx IS2: so yeah
xxx S32: okay.
xxx IS2: you don't need to do the crystalize- the-th-th-the-the
xxx S32: so just discard this?
xxx IS2: discard them
xxx S32: okay [sorry
xxx IS2:
              [okay as long as you get some.
xxx S32: okay.
33:29
XXX
         ((pause))
33:50
xxx IS2: so normally
        if you (.) put- or- you can use uh-
XXX
        uh: forceps.
XXX
          okay.
XXX
XXX
          uh: cover with watchglass.
XXX
         ((yawns))
34:03
         ((pause))
XXX
34:40
xxx IS2: hi uh
XXX
        did you uh:
XXX
        measure the melting point already?
xxx S33: mhm.
XXX
         yep.
xxx IS2: okay.
```

good. XXX 34:50 ((pause)) XXX 35:33 xxx IS2: oh it's- it's a very good way. xxx U2: I know right? xxx IS2: ((laughs)) I never thought that before XXX it is very good XXX just make sure you have all the-XXX xxx U2: yeah! xxx IS2: you did that last semester? xxx S34: yeah xxx IS2: [cool xxx S34: [especially when you have like two things xxx IS2: ((laughs)) xxx S34: (it gets all) xxx IS2: yes 34:48 ((pause)) XXX 36:05 xxx IS2: hi uh xxx S35: uh you wanna see this with me? xxx IS2: sure. sure sure sure sure sure. XXX ((laugh)) XXX ((pause)) XXX oh [he**'**s XXX xxx S35: [oh: my god xxx IS2: it's too concentrated that's why cause soso that's why I-I-I told you you need to use [micropipette XXX [the microxxx S35: [yes oh my god. XXX but uh: still you can see :-XXX 36:24 ((pause, mic cuts out)) XXX 36:56 UV light before you put in a chamber if you don't have-XXX if you cannot see the: spot on the [origin. XXX xxx S35: [I did I did xxx IS2: [you did?. xxx S35: [um I did see the standard. xxx IS2: but if- ((mic cuts out)) xxx S35: do it again?

xxx IS2:	no no I don't think so.
XXX	cause if (.) you don't have the (.) two? ten?
XXX	uh twenty minutes, right?
xxx S35:	I do I do that's the two ten twenty minutes.
xxx IS2:	but you don't have right now.
XXX	because your reaction is completed.
xxx S35:	yeah I don't-
37:20	
XXX	((audio extremely spotty; can't really get whole exchange))
38:45	