

I Can Meet with Dead Scientists #Chapter 57 - 55: Big Mantis, Time to Take Your Medicine (Thanks to Little Angel Lingbo for the Alliance Leader reward!!!) - Read I Can Meet with Dead Scientists Chapter 57 - 55: Big Mantis, Time to Take Your Medicine (Thanks to Little Angel Lingbo for the Alliance Leader reward!!!)

Chapter 57: Chapter 55: Big Mantis, Time to Take Your Medicine (Thanks to Little Angel Lingbo for the Alliance Leader reward!!!)

Considering the issue of experimental contingency, Xu Yun and the others used six cultivation containers for their first experiment, housing a total of over five hundred cockroaches, densely packed, forming a large, black mass.

Looking at the cockroaches covering the inner walls of the cultivation containers, an image Xu Yun once fantasized about suddenly appeared in his mind:

An invisible deep pit, housing tens of thousands of cockroaches, a person losing balance and falling in, then being submerged by the cockroaches....

Yikes...

Xu Yun quickly dispelled this image and refocused his mind on the operation table.

Imidacloprid, as a biological toxin acting on nicotinic acetylcholine receptors, works primarily by disrupting the chemical signal transmission of an insect's motor nervous system, thus physiologically exterminating the target.

As for its transmission principle, there are two methods.

One is the physical mixture in bait gel attracting cockroaches; the chemical sensing range of cockroaches is as much as two hundred meters, so many cockroaches will follow the scent and come to nibble on the poison.

But the number of cockroaches that can be attracted in this way is ultimately limited; the real insecticidal effect of imidacloprid lies in the second method.

Which is...

Cannibalism among cockroaches.

That's right, cockroaches will gnaw on the corpses of their conspecifics.

Live cockroaches enjoy eating the corpses and excrement of dead cockroaches, so sometimes, when walking on the street, one might see some cockroach corpses with hollowed-out tails or heads, which are the remnants left by cannibalism.

The transmission of imidacloprid leverages this habit, but the number of generations it can affect usually doesn't exceed three, and dead cockroaches do not carry pheromones, so its effect on attracting conspecifics is limited.

Currently, the best household imidacloprid bait gel in the country is the Baymex produced by Bayer, expensive but remarkably effective; a droplet the size of a rice grain can continuously kill about 60 cockroaches, with generational efficacy spanning between two to two-and-a-half generations.

Besides, there's also a recipe shared by the famous Master Little Xiaoyu, which consists of boric acid powder + sugar + mashed potatoes.

The ratio of boric acid powder to sugar is 1 to 1, with enough mashed potatoes to form a paste, and it's ready by placing a bit in all corners.

The main effective ingredient is boric acid powder, which dehydrates the cockroaches to death when ingested; the sugar is for attracting cockroaches, and the potatoes are to form a paste.

The effectiveness of this recipe is also quite good; on Taobao, under boric acid sellers, you can often see related reviews, and occasionally, some banter about water monkeys, etc.

Shifting focus back to the laboratory.

Baymex essentially represents the pinnacle of broad-spectrum cockroach extermination drugs; there are more effective options, but they are difficult to mass-produce.

However, the number of cockroaches that a standard dose of Baymex can kill might seem impressive, yet for large-scale prevention and control, it remains so-so; it might handle a small space of 30 square meters, but for a larger space over 100 square meters, you have to rely on substantial dosages to tackle it.

Thus, Xu Yun's goal is evidently more ambitious than merely matching its level.

Once everything was prepared, Xu Yun picked up a dropper and squeezed out a grain-sized dose of Fourth-Generation Imidacloprid gel bait onto three small dishes.

The other three dishes were to hold Baymex, Cockroach Killer produced by Neon Xiaolin Pharmaceutical, and Maple Country's kttu insecticide for contrast.

The gel baits were about the size of a rice grain, semi-transparent, resembling Futalin Cream.

The containers designated for the Fourth-Generation Imidacloprid gel bait were numbers 1-3, while the latter three were numbers 4-6.

Subsequently, Xu Yun and the others used the container's lifting equipment to place the small dishes at the bottom of the containers, and turned on the cameras to observe the effects.

Xu Yun first observed the biological container noted as number 2, with specifications of a 45X30X20 rectangular shape, containing some drinking water inside.

The cockroaches brought back from He Jiajia were very lively, continuously crawling and bustling around the bottom and walls of the container; you could clearly see the leg hairs and slightly opening wings of the American cockroach, as if, without the barrier of the container, it would fly at you like a dragon rider.

When the dish with the gel bait contacted the bottom of the container, it made a slight vibration, and the cockroaches inside the container suddenly grew restless, but after a dozen seconds, they gradually returned to normal.

Another dozen seconds passed.

The chemical pheromones in the Fourth-Generation Imidacloprid began to disperse, gradually attracting three or four cockroaches nearer, which soon started nibbling on the gel bait.

Meanwhile, in containers 4-6, the cockroaches remained unmoved, with only a few tentatively approaching.

In container 2, after a few cockroaches finished eating the gel bait, they retreated one after another, and a new group came forward to feed.

This continued for a total of three rounds, with container 4, containing Baymex, just seeing cockroaches taking the first bite.

It was evident.

Though both containing pheromone components, the effect of chemical synthesis versus physical mixing was vastly different.

A few more minutes passed, and the cockroaches in container 6 finally gathered around the gel bait.

Seeing this, Xu Yun turned to Zhou Peiyao and asked:

"Xiaozhou, how much time has passed?"

"Since the formal placement, 26 minutes and 36 seconds, container 1 had four rounds of feeding, container 2 five rounds, container 3 four rounds, container 4 two rounds, and containers 5 and 6 each had one round."

Xu Yun nodded, about to encourage Zhou Peiyao with a few words, when Ren Yongcun excitedly exclaimed:

"Senior, look at container 2, this cockroach is reacting!"

Xu Yun hurriedly leaned in, following Ren Yongcun's gesture to observe.

It was an approximately four-centimeter-long American cockroach, currently clinging to the container wall, its antennae rapidly twirling, wings fully spread, appearing very excited.

After another twenty minutes, this American cockroach could no longer stand on the container wall, its supporting legs lost strength, and it fell onto the container bottom with its back downward.

Although it quickly righted itself, judging by its speed in getting up, its motor neurons were clearly malfunctioning.

As expected.

Not long after, this large cockroach suddenly flipped over, its six legs feebly waving in the air.

More crucially...

The problem in the motor neurons caused the binding proteins within the thoroughly ingrained pheromones to begin interacting with the pheromone receptors on the odorant-sensing neurons, leading to disordered gene expression and extensive pheromone diffusion.

In the next twenty minutes, a large number of male cockroaches gradually gathered around this female American cockroach, appearing exceedingly aroused, with heightened sexual excitement.

However, due to some peculiar conditions of the initial generation, the many male cockroaches did not engage in a group activity.

The female American cockroach, amidst the observation of numerous companions, completely lost all signs of life, and then.....

The male cockroaches brutally gnawed on its head.

.....

Note:

The operations in the next Chapter will be quite bold, presumably.....

Chapter 58: Chapter 56: Are you the devil?

The female American cockroach keeled over dead, over an hour past since the cockroaches first began to nibble on the gel bait.

Consequently, besides this unlucky one, the first batch of cockroaches that consumed the gel bait began to show reactions one after another.

At this moment, in containers 1-3, clusters of cockroaches could be clearly seen gathered together, rustling and indulging in a feast.

In stark contrast to this was the scene inside containers 4-6:

Over forty minutes had passed, and even in container number 4, which had the best efficacy, only five or six cockroaches exhibited an excited state.

Another hour passed.

In container number 2, the males that had nibbled on the female cockroaches also began to show abnormalities successively.

Meanwhile, due to the pheromone diffusion, each male cockroach was surrounded by multiple female cockroaches.

The corpses of the male cockroaches, after their death, also became the food for the female cockroaches.

Then, these female cockroaches dispersed one after another, continuously engaging in the next round of transmission.

Eight hours later.

Only a few cockroaches remaining in containers 1-3 still showed signs of life, while the rest were either reduced to corpses or had completely perished.

In container number 4, there were only about ten cockroach corpses, and around fifteen or sixteen in an excited and poisoned state.

As for containers 5 and 6, the death toll was in the single digits.

Seeing this scene, the youngest among them, Tang Yiqiu, couldn't contain her excitement and exclaimed "Yay!":

"Senior Brother, it seems our experiment is very successful!"

As a fourth-year undergraduate, it was her first time participating in a project of this level, and seeing the research team achieve results, how could the young girl not be thrilled?

However, to her surprise, Xu Yun gently shook his head:

"Success? Xiaotang, this isn't considered a success yet. Although we've developed the Fourth Generation Imidacloprid, is it really the perfect form of Imidacloprid?"

Seeing this junior looking a bit puzzled, Xu Yun pointed to the biological container and said:

"Tell me, during the experiment just now, what did the cockroaches do after nibbling on the corpses of their kind?"

Tang Yiqiu blinked blankly and instinctively replied:

"Neurological excitement, then they released pheromones and mated with the opposite sex cockroaches."

"You see, doesn't that bring up a problem?"

Xu Yun clapped his hands and laughed:

"Due to our prepared biological container's limited volume, it resulted in all cockroaches inside being covered by pheromones, prompting mating behavior.

But in their living environment, the activity range of cockroaches isn't just a small container like this?

Their biological density may not compare to the container, but the complexity of intersecting paths and scents far exceeds that of the container. This is the difference between experimental and real environments."

Tang Yiqiu nodded half-understandingly, her ponytail swishing behind her, and asked:

"So, Senior Brother Xu, are you planning to improve the pheromone protein, expanding the diffusion range of the pheromones?"

"No, no, no, you've misunderstood my point."

Xu Yun quickly shook his head and said:

"What I mean is..."

According to our current Imidacloprid formula, if a male cockroach A would only attract female B before dying, what if there happened to be one or several male C passing by at this time?

If lucky, C might wait for B and A to finish mating and then be attracted by B's pheromone, following up by mating with B, thus getting poisoned.

But the drug's effect takes time; what if C leaves during the latent period of the drug?

Doesn't this potentially lead to a significant number of targets not being covered?"

Looking at the confused expressions of Tang Yiqiu and others, Xu Yun smiled happily:

"So...could we add an attractant to the pheromone protein, allowing the pheromones emitted by those first-time nibbling cockroaches to be non-gender-specific, thereby letting A attract C, resulting in..."

A mating with C, or even males swapping lymph fluids?"

As Xu Yun finished speaking, the entire laboratory fell into silence.

After a few seconds, Tang Yiqiu and Zhou Peiyao exclaimed in unison:

"Senior Brother, are you a devil?!"

Xu Yun shook his head, seriously explaining:

"No, no, no, this is just a logical supplement based on a realistic perspective.

After all, we operate on biological models—within a standard one-kilometer residential zone, male cockroaches interact only 0.37 times a day with each other.

So, the scenario I described has a significant chance of occurring in reality.

Moreover, if we can solve the attractant issue, we might even develop corresponding insecticides for mosquitoes and flies in the future, which opens up a vast space indeed."

Xu Yun spoke with tremendous confidence because a key aspect of his obtained Fifth Generation Imidacloprid formula was inducing specific attractants through cell receptors, thereby causing cognitive disruption among cockroaches.

Of course.

A little bit of personal emotion is involved here, which we won't delve into for now.

Then Xu Yun paused and said sternly:

"Lastly, regarding the efficiency of the insecticide, although our Fourth Generation Imidacloprid acts faster than the other three gel baits, I still feel that the binding speed of the target protein is somewhat slow.

Considering the attraction effect generated by the movement of live cockroaches, I personally feel the configurations should be: the first generation vector for 20 minutes, and the vector spanning from the second to the fifth generation for an hour."

Because even after death, cockroaches will attract others to come and nibble on them."

Initially, considering that the research team had not even successfully developed the Fourth Generation Imidacloprid, Xu Yun reserved some optimization directions for the Fifth Generation Imidacloprid without revealing them.

After all, discussing the fifth generation before breaking through with the fourth seemed a bit too ambitious.

However, now, with the technological breakthrough of the Fourth Generation Imidacloprid, some of his ideas could also be brought into focus:

"For example, the target of Imidacloprid is nAChR, specifically the R81 arginine residue in the Loop D region of the β 1 subunit, and the binding time is generally no less than thirty minutes.

So....

Could we consider supplementing with other approaches?

For instance, inhibiting acetylcholinesterase or targeting the sodium channel?"

Watching the group descend into deep thought, Xu Yun continued:

"Mammalian sodium channels have 9 subtypes, namely NaV1.1-NaV1.9, whereas insect subtypes are more complex, so we need to deduce the receptor binding patterns."

"However, since we've crossed the most challenging hurdle of forming the cyclic structure, the subsequent stages will undoubtedly be much easier, so everyone, let's give it some extra effort?"

"Let's strive to send the cockroaches to heaven as soon as possible!"

Chapter 59: Chapter 57 The Big Move of Physics College

In the previous 1665 dungeon, Xu Yun received a conspicuous hint about the Five Dynasties' imidacloprid formula:

[This is good stuff, but truly mastering it won't be easy].

Thus, the entire formula is not a fool-proof one-click guide but provides some directions and structural expression diagrams. Many aspects require Xu Yun to personally work and think to solve it—like the previous pheromone, for instance, or the targeted binding method from the fourth to fifth generation.

To put it simply, you cannot have something for nothing.

However, compared to the cyclization breakthrough from the third to fourth generation, the difficulty from the fourth to fifth generation is undoubtedly much smaller, meaning the leap isn't quite as large.

Fourth-generation determines the structure, fifth-generation supplements the functionality, and the former is the key point of qualitative change.

Thus, after establishing the direction for optimization needed for the fifth generation, Xu Yun began to distribute the tasks for the next phase:

"Old Qiu, next you take Xiaotang, Xiaoli, and the others to work on the development of the homomeric pheromone, leaving the derivation of the sodium ion channel receptor binding method to me. Let's keep in contact at any time.

There are many existing examples in the homomeric pheromone biosphere; the key is in blocking the conformational changes of the sensing domain, which is not particularly difficult to operate, so let's set a time.

The usage time of the laboratory is still nine days, so let's strive for six days... get the pheromone challenge done within six days!"

Upon hearing, Qiu Sheng exchanged a look with Li Yi and the others, then nodded heavily:

"Old Xu, don't worry, I'll handle this side just fine."

After delegating the laboratory tasks to Qiu Sheng, Xu Yun tidied up some materials and left the lab in casual attire.

Students not infuriated by biology teachers should all know.

All animal membranes have a channel that allows a small amount of Na ions to enter cells following their electrochemical gradient, which is the sodium ion channel.

Discovered by the British scientists Hodgkin and Huxley, it can be divided into voltage-gated and ligand-gated types.

The sodium ion channel is the main trigger for electrical signals in all animals, and electrical signals are the control basis for a series of physiological processes such as nerve activity and muscle contraction.

Therefore, if it is possible to regulate the inactivation and deactivation of insect sodium ion channels, prolonging the time of transmembrane sodium ion flow to cause nervous excitation conduction blockade, this can also accelerate killing insects.

According to the just-assigned task, the derivation of the sodium ion channel receptor binding method was left for Xu Yun alone to solve, which is not an easy task. Therefore, he planned to check some materials at the West District Library first.

However, as soon as he left the medical center a few steps, the phone in his pocket vibrated.

"If it gets dark before then, I'm going to dig out your eyes~~~"

Xu Yun pulled out his phone to see that the incoming number was marked with a number:

Marshal Pan.

Seeing this, Xu Yun felt a chill in his heart and quickly pressed the call button:

"Director Pan, you looking for me?"

A few seconds later, a robust male voice came from the receiver:

"Hmm, it's me, Xiaoxu, where are you?"

"I'm in the Central District at the medical center here, planning to go to the West District Library for some research."

"That's convenient, I just came out from Tongfu Laboratory, shall we meet at the library entrance?"

"Sure, please wait a moment, I'm on my way!"

After hanging up, Xu Yun didn't dare to delay and quickly took a taxi heading to the West District.

More than ten minutes later, carrying a small bag, Xu Yun arrived alone at the West District AED entrance.

At this moment, there stood a figure at the library entrance, quite familiar to Xu Yun.

The person appeared to be in their early fifties, with a kind face and spirited eyes, a tuft of bangs slanting from left to right on the forehead, wearing brown-framed glasses.

Not particularly tall but with an extremely imposing back.

This person was Xu Yun's other mentor, the leading figure in domestic quantum communications, Marshal Pan, Academician Pan.

Xu Yun quickly walked over, greeting him:

"Professor, you wanted to see me?"

"Oh, Xiaoxu is here."

Marshal Pan turned and nodded at Xu Yun, casually patting his shoulder and pointing to the side:

"Let's walk and talk."

Xu Yun obediently followed.

Perhaps because the School of Life Sciences is located here, the greening measures of West Campus of Ke Da are quite perfected, with tree-lined paths everywhere.

West Lake, one of the West District's attractions, had introduced six black swans from Lu Dong's breeding base not long ago, making the natural environment more harmonious than the other two campuses.

Xu Yun and Academician Pan walked leisurely down a shady path until Academician Pan started the conversation:

"Xiaoxu, your doctoral thesis defense should be soon, right?"

Xu Yun plucked a dry leaf from his shoulder and replied:

"It's coming close. It was originally scheduled for next May, but Director Tian helped push it up to March next year, specifically mid-March."

Upon hearing this, Academician Pan nodded thoughtfully.

Generally, domestic part-time graduate thesis defenses are in December, full-time in May or June, but direct Ph.D. programs can sometimes make exceptions and hold defenses in March. Then, he continued to ask:

"Xiaoxu, I remember you've published academic papers in biology?"

Xu Yun nodded with a smile:

"Yes, published 5 SCI papers last year, although truly valuable ones are only two, one barely scraped into Zone Two."

"That's still quite impressive."

Academician Pan praised, then stopped and looked at Xu Yun seriously:

"So, Xiaoxu, in the next half year... are you interested in helping me out?"

"Huh?"

Xu Yun was momentarily stunned but, thanks to two lifetimes of rich research experience, instantly understood what Academician Pan meant:

"Director Pan, is there going to be a big move by the school?"

As a current physics graduate student, being called by Marshal Pan or other bosses to assist is a common occurrence. If it were just ordinary research projects, Marshal Pan wouldn't need to ask such a question.

It was obviously clear that the research project Marshal Pan hoped he would assist on must be of astonishingly high specifications, even requiring Marshal Pan's personal 'interview'!

Faced with Xu Yun's doubts, Marshal Pan nodded slightly:

"Yes, recently we achieved some technical breakthroughs in a... um, a field, so we're preparing to launch a new project."

Xu Yun curiously glanced at him:

"Director Pan, can you tell me what the project is? Of course, if even the name needs to be kept secret, then just pretend I didn't ask."

"It's not that serious; the name can still be mentioned. After all, technology is the core."

Marshal Pan waved his hand confidently:

"If all goes well, we're about to conduct the fifteen-photon entanglement experiment!"

Chapter 60: Shelf Testimonials

Phew...

When I wrote the beginning of this, my feelings were a bit complex.

After all, it's a first for a newcomer to release a book, haha.

But the more I laughed, the more it became a forced smile.

Because before this book was even released, many readers are probably aware that I went through a five-day roller coaster.

Day One: You can't write your book anymore.

Day Two: You can write again.

Day Three: Can't write.

Day Four: You can write again.

Day Five: Can't write, let's call it complete.

Actually, before starting "Conquest Manual," I was already prepared for the possibility of not being able to continue writing or being banned, so being told not to write was something I expected, but I didn't think it would be this tumultuous.

1.4 million words, an average subscription nearing 8,000, consistently in the top fifteen of the bestsellers, over 30,000 yuan in manuscript fees per month, all gone in a flash.

Heartbreaking...

A lot of readers were asking when a new book would be released after the completion, so on the fourth day after it was completed, I released this "Walking into the Unscientific."

Actually, according to my plan, if Conquest Manual had been completed normally, I would definitely have used a different pen name when starting a new book.

But since Conquest Manual had an abnormal end, I felt bad about abandoning the thousands of book buddies who subscribed, so I chose to use this account to release the new book.

First day three Chapters, no stockpile, writing as I go each day.

As I mentioned in a previous Chapter, the original title of this book was intended to be "The Technology Empire Begins with Eradicating Cockroaches," but it was nixed by many author friends in its budding stage, and recent feedback from book friends, with votes of 10 to 1, made me realize I'm really bad at naming things... QAQ.

The inspiration for this book actually came from life. I won't go into details, but one day I saw a cockroach and suddenly thought of this concept.

I've always found it strange, why is it that with so many black technology stories on Qidian, there's not a single one about exterminating cockroaches or mosquitoes?

With that in mind, I made Imidacloprid the first selling point of this book.

As for the space-time dungeon, it's an additional setting that evolved from there. Not to brag, but there aren't many authors on Qidian who dare or can write about the history of technology, after all, each profession has its specialty, just like I can't write romance stories.

Now, let's talk about the pacing of this book.

Honestly, I seem to have overestimated my reader retention, resulting in not very ideal follow-ups for this book.

I know how to write at Qidian to get results early on, but I don't like writing that way, with an opening that shocks the world, worth over a billion in fifty Chapters, and flying out of the universe in two hundred Chapters, that's not the world I want to describe.

I believe that a true work of technology literature doesn't necessarily have a particularly high concept, but is a work that can broadly change life.

Like exterminating cockroaches, exterminating cockroaches, and, well, exterminating cockroaches.

Ahem...

Alright, let's talk about the release then.

Updates will be at midnight tonight, though due to backend delays there might be a few minutes' wait, so please be patient.

Considering how unfortunate the last book was, could you all give it a first subscription?

Tonight's update will be no less than five Chapters, and I'll try to complete a Chapter owed to Hook, which means a bare minimum of five Chapters, and the maximum depends on how much I can write...

Readers who followed my previous book probably know, I often add more Chapters when asking for monthly passes, but I rarely ask for tips. However, tonight, with this new release, I'll make an exception and ask for tips.

If you're willing to support, you can tip after midnight tonight, because the monthly tickets on the 31st don't count towards the 1st.

Specific additional Chapter rules are as follows:

An Alliance Leader adds three more Chapters (I'll make up for Little Angel Lingbo's extra Chapter asap), accumulated tips of 1000 add three Chapters, and at the end of the month, it will be publicized in the group.

I reckon there's not much chance of getting much on the new book monthly ticket ranking, there are too many bosses, so let's go by the rules of the last book, (10-rank)X10 additional Chapters, even at rank ten adds ten Chapters.

As for additional Chapters based on average subscriptions...

Same as the last book, with over 2000 follow-up readers, the target is 1400 for first subscription, for every 100 over and after 100 more, an extra Chapter is added (even though I owed dozens of Chapters because of this with the last book, but I'd rather pay off the debt than set a high expectation and get embarrassed...)

Considering some folks might be worried about recommendations not being used up, I'd like to add that my shout-out speaker, Sanjiang, and homepage strong push will all be consumed after the release, there shouldn't be less, but not having them might make first subscriptions not look so good.

Finally, I'd like to thank all the bosses who supported me, including but not limited to Tian Rui Shuofu, Uncle Tong, Liudan Pashui, Ji Cha, Tomorrow, Yan ZK, Cangshan Yue, One Slash, Black Lamp Summer Fire, Pei Tugou, Wang Zijun, Qi Peijia, Feng Chaohuang, Han YouSi, Dream Catcher, Historical Wind, and so on...

What a pity Sister Bai He had little Bai He, otherwise, could have gathered enough poisonous milk to summon a Divine Dragon.

That's about all I need to say, been out of income for a month, can I ask for a first subscription for the new book?

Don't miss it after midnight!!!!