



Is the Internship Period (program) in Dental College Sufficient to make the undergraduate students eligible for performing the minor oral surgery procedures?

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ABSTRACT

Background: Evaluation of the intern students have an essential role in assessing the efficiency of the provided education methods, clinical training, and the achievement of the intended learning outcomes of future graduates students. **Aims:** this study aimed to evaluate the internship program of undergraduate students and their ability to perform the all minor oral surgical procedures during the period allocated at Maxillofacial and Oral Surgery Department. The study also explored the confidence and level of satisfaction of students during the internship period. **Material and methods:** This study was conducted in Oral and Maxillofacial Department of Dental College, Sebha University from March to October 2021. There were 11 questions assessing various aspects of the undergraduate OMFS curriculum and internship period, including age, gender, and number of minor oral surgeries performed. Data was analysed by statistical package of social science (SPSS version 22). **Result:** A 30 questionnaires were completed, representing a response rate of 100% for the internship students. In general, the interns appeared very satisfied with their training experience 50%, 33.3% unsatisfied, and 16.7% still unsure. About half of the internships students expressed the three months enough to perform the all minor oral surgical procedures with 56.7%, whereas 33.3% expressed the two months, and 10% reported the one month was enough. **Conclusion:** This study revealed the internship period for the majority of undergraduate students is not sufficient to perform the all minor oral surgical procedures. They reported the high level of confidence and satisfaction during the internship period.

هل فترة التدريب (البرنامج) في كلية طب الأسنان كافية لجعل طلاب البكالوريوس مؤهلين لأجراء عمليات جراحة الفم الصغرى.

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الكلمات المفتاحية:

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المخلص

الخلفية: تقييم الطلاب المتدربين له دور أساسي في تقييم كفاءة طرق التعليم المقدمة ، والتدريب السريري ، وتحقيق نتائج التعلم المرجوة لطلاب خريجي المستقبل. الأهداف: هدفت هذه الدراسة إلى تقييم برنامج الأمتياز لطلبة التخرج ومدى قدرتهم على إجراء العمليات الفموية الصغرى خلال نفس الفترة داخل قسم جراحة الفم والوجه والفكين. أيضا الدراسة تعبر عن مدى ثقة ورضى الطلبة عن تلك الفترة. المواد والأساليب: أجريت هذه الدراسة في قسم OMFS بكلية طب الأسنان ، جامعة سبها من مارس إلى أكتوبر 2021. كان هناك 11 سؤالاً لتقييم الجوانب المختلفة لمنهج وفترة التدريب من OMFS ، بما في ذلك العمر والجنس وعدد جراحات الفم الصغرى إجراء. تم تحليل البيانات بواسطة الحزمة الإحصائية للعلوم الاجتماعية (SPSS) الإصدار 22. النتيجة: تم الانتهاء من 30 استبانة تمثل معدل استجابة 100% لطلبة التدريب. بشكل عام ، بدأ المتدربون راضون جداً عن خبرتهم التدريبية بنسبة 50% ، و 33.3% غير راضين ، و 16.7% ما زالوا غير متأكدين. يعتقد

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حوالي نصف طلاب التدريب الداخلي أن ثلاثة أشهر كانت كافية ليكونوا مؤهلين لإجراء جميع جراحات الفم البسيطة بنسبة 56.7%، بينما ذكر 33.3% شهرين، و 10% يعتقدون أن الشهر فقط كان كافياً. الخلاصة: الدراسة أظهرت ان فترة الأمتياز لغالبية طلبة التخرج غير كافية لأجراء كافة العمليات الفموية الصغرى. وكذلك أظهرت ثقة ورضى عالي جدا من الطلبة عن نفس تلك الفترة من جوانب أخرى.

Introduction

The transitional stage from an undergraduate student to a professional is not always very simple. Because of, the new graduate students have to face many challenges in the professional life. They have to adjust themselves according to the professional environment by implementing their conceptual knowledge and the training in the new stage of real work (1). Therefore, the internship programs not only improve student's personal skills but also develop their professional growth and experience. Thus, the internship programs are the opportunities for educational institutes to upgrade the student's training and update their curriculum (2). In fact, the internship programs for students are experience of real practical work (3).

Merriam-Webster defined as "an advanced student or graduate usually in a professional field (such as medicine or teaching) gaining supervised practical experience (as in a hospital or classroom)" (4).

For the dental undergraduate education, the clinical training as well as the clinical requirements different from one dental college to another. In addition, new graduates in some countries are required to complete one-year training as an internship before they are registered as a licensed dentist. Indeed, this difference makes the teaching outcomes of oral surgery courses in different colleges not standard to each other. It is essential that a graduate from dental surgery program have similar important teaching outcomes in the specialty of oral surgery (5). For instance, in china the last year of undergraduate dental education, known as an intern year, includes comprehensive clinical training (6). Additionally, in Saudi Arabia, undergraduate students before graduates from dental school are required to complete one year training at different hospitals, before receiving their licenses (7). As well as, in Libya, the new graduate dentists are required to spend a specific period known as "internship training period" after graduation in dental clinical college to prepare them for daily practice and improve their clinical, skills, and self-confidence to work independently.

Oral and Maxillofacial Surgery (OMFS) department is a surgical specialty of dentistry concerned with the management of diseases of the jaws, mouth, face and neck regions (8) (ISCP, 2007). Beside the management of oral pathological conditions, the practice of Oral and Maxillofacial Surgeon includes many life-threatening conditions of the cranio-maxillofacial complex (9) (10).

As any other practical department in Sebha Dental College, OMFS clinical training for undergraduate's students requires well-structured and designed courses with well-qualified faculty and teaching staff. Preclinical training on manikins helps dental students to develop operative clinical skills as well as increases their competence level in the processes of their actual clinical training. For these purposes, some dental colleges use preclinical models for teaching of dental extraction (11). Early exposure to clinical practice may increase the dental students' extraction experience. It was reported that the availability of suitable cases is a major limitation of the undergraduate dental students experience in the oral surgery (12).

Assessment of dental students has a very important and crucial role in evaluating the efficiency of the provided education methods and the achievement of the intended learning outcomes of the future graduate dentists (13) (14). The different types and aspects of dental curriculum's teaching in general and the OMFS courses in specific ensures the students' performance and achievement to be assessed by academic faculty and clinical instructors and prepare them to face the dental surgery challenge (12). Therefore, this aimed to evaluate the internship program of

undergraduate students and their ability to perform the all minor oral surgical procedures during the period allocated at Maxillofacial and oral surgery department. The study also explored the confidence and level of satisfaction of students within their internship period.

Material and Methods

This is a descriptive cross sectional study was conducted in OMFS department of Dental College, Sebha University from March to October 2021. A questionnaire was distributed electronically via Google Forms (<https://www.google.com/forms>) to all eligible internship students at Sebha University. The students filled out the questionnaire instruments voluntarily, and their responses remained anonymous throughout the study. There were 11 questions assessing various aspects of the undergraduate OMFS curriculum and internship period, including age, gender, and number of minor oral surgeries performed. The domains included minor oral surgery procedures typically performed by practicing dentists, such as extracting teeth (simple and surgical), as well as additional surgical management of a failed extraction, including raising a mucoperiosteal flap, removing bone, sectioning roots, and suturing wounds. It also includes removal of small soft lesion like; mucocele, ranula, high labial and lingual frenum ect in the mouth. Additionally, students were asked how confident they were in diagnosing and managing medically compromised patients. The questionnaire included an introduction cover letter that involved the title and objectives of the study, the procedure for answering the questions, and it included the following clarifications "There are no risks to you if you participate in this research. You will gain a better understanding of important issues through your participation. All information collected will remain confidential. Neither your name nor your address will be recorded in any assessment. There is no obligation for you to participate, and you have the freedom to agree or not agree to participate. This will not have any effect on your academic standing, your right to receive health care, or your employment status. You may withdraw from the research at any time." The students then had to indicate if they were willing to participate or not. The questionnaire was presented in three forms. The first form was collected demographic characteristic age, gender, number of tooth (simple, surgical) extraction, and other minor oral surgery performing during their training. The second form was using a likert-type format. Respondents stated their agreement or disagreement with each item on a three point scale: (1) Agree. (2) Disagree. (3) Unsure. The last form is using own format to collect feedback on their experience to enough duration training. The study also explored the level of satisfaction of students with their internship experience and period. All participants responded to all questions in the questionnaire. The students were reassured that all answers remained anonymous. It was an assessment of the period of time during which they will perform all minor oral surgery procedures according to our oral surgery program. Oral and maxillofacial department gave the ethical approval (1/2022). Data was analysed by statistical package of social science (SPSS version 22). A descriptive analysis was performed to calculate demographic characteristics of the participants, also frequency, and percentage of internships responded to the questionnaire.

Result

A 30 questionnaires were completed, representing a response rate of 100% for the internship students (n=30). Twenty-five respondents were female (83.3%), and just 5 respondents were male (16.7%), and the mean age was 24.83 years. The extractions performed during the

study period were 450 simple extractions, 51 surgical extractions, and 9 other oral surgical procedures. All participants performed simple extractions (100%), surgical extraction performed by 76.7% of the participants, while only 30% of participants performed other minor surgery (drainage abscess, take biopsy, etc...). (Table 1), (Figure 1)

Table 1: Students characteristic and number of tooth extraction performed

Variable	Frequency	Percentage	
Age (years)			
24	14	46.7%	
<25	16	53.3%	
Gender			
Female	25	83.3%	
Male	5	16.7%	
Oral procedures			
	Number	Yes	No
Simple extraction	450	30(100%)	0
Surgical extraction	51	23(76.7%)	7(23.3%)
Other minor surgery	9	9(30%)	21(70%)

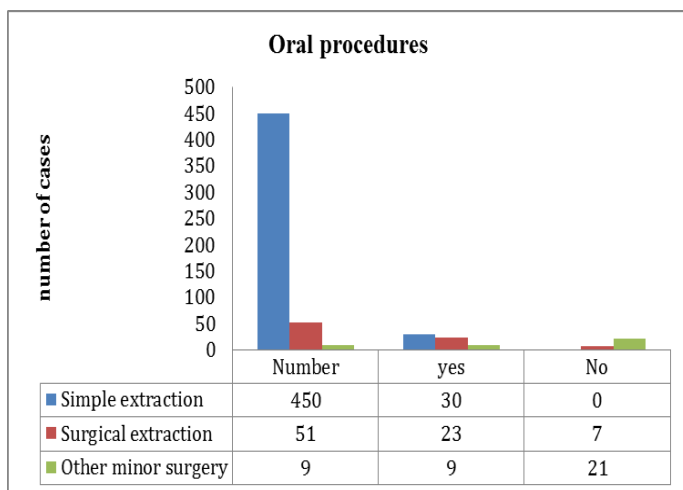


Figure 1:- show oral minor surgery was performed by interns.

A 40% of internship students was less confident to undertake practice independent with whereas 36.7% more confident. On the other hand, 50% of total internship was satisfied with time that spent in OMFS department, 33.3% unsatisfied, and 16.7% still unsure. The internship students mentioned unsatisfied time training program to perform all simple and surgical extraction (53.3%), and 30% were satisfied. The majority of internship students (63.3%) had greater positive feedback for the interaction with supervisors. About 73% of the responder was less confident to perform drainage abscess, take biopsy, and management of medically compromised patient, while 26.7% were revealed greater experience. With regard modern technology and dental resource (material, instruments, and equipment), approximately 50% of the internship students stated that the modern technology was not used effectively to enhance their learning experience. About 43% (disagree) of internship students believe that dental material and equipment available in the training clinical department, and 33.4% were unsure (Table 2) (Figure 2).

Table 2: Interns' perception toward the training experience outcomes that including the knowledge, time, skills, their interaction with supervisors, and training department

Question	Agree	Disagree	Unsure
Q1. The training that I have received in the oral surgery has given me sufficient knowledge and confident to undertake independent practice	11(36.7%)	12(40%)	7(23.3%)
Q2.I believe the time that I have spent in oral surgery department was satisfied	15 (50%)	10 (33.3%)	5 (16.7%)
Q3. I believe my training program and time was	9(30%)	16 (53.3%)	5(16.7%)

sufficient to perform simple and surgical extraction

Q4. My supervisors were available to help me all time	19(63.3%)	4(13.3%)	7(23.4%)
Q5. I feel confident to assess and performed drainage abscess, take biopsy, and management of medically compromised patient	8(26.7%)	22(73.3%)	0
Q6. The modern technology was used effectively to improve my teaching experience	10(33.3%)	15(50%)	5(16.7%)
Q7.the surgery material, instruments, and equipment available in training department	7 (23.3%)	13(43.3%)	10(33.4%)

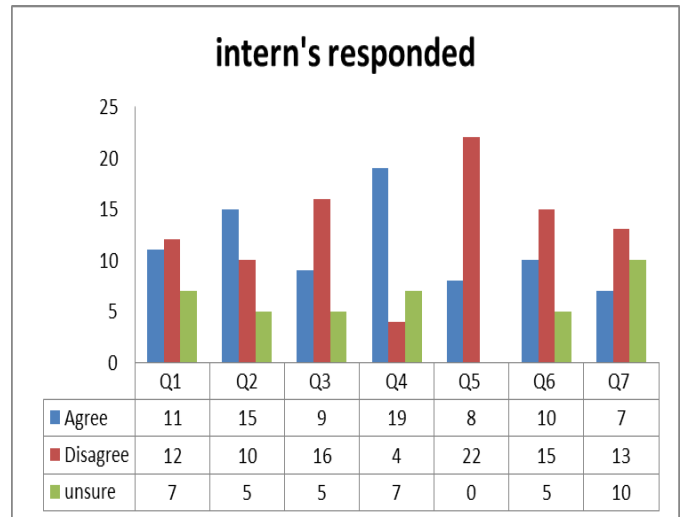


Figure 2:- show Interns' perception toward the training experience outcomes

The great majority of the internships mentioned their skills in dental local anesthesia technique injection and tooth extraction was improvement in month (56.7% and 66.6% respectively). 53.3% of the participant's skills in diagnosis and management of medically compromised patient were improved in three months. About half of the internships students believed that three months was sufficient to be eligible to perform all minor oral surgery with 56.7%, whereas 33.3% (n=10) mentioned two months, and 10% were believe that only month was enough. (Table 3), (Figure 2)

Table 3: Interns' perception toward the training time to perform the all minor oral surgery

Question	Month	Two month	More than two month
Q1. My skills in dental local anesthesia injection techniques was improved in	17(56.7%)	5(16.7%)	8(26.6%)
Q2. My skills in teeth extraction technique was improved in	20(66.6%)	5(16.7%)	5(16.7%)
Q3. My skills in diagnosis and management of medically compromised patient was improved in	6 (20%)	8 (26.7%)	16 (53.3%)
Q4. I believe that internship students to be eligible to perform all minor oral surgery need to	3 (10%)	10(33.3%)	17 (56.7%)

The internship student's opinion was assessed to improve the quality and quantity of internship period. Around 40% of the participants think that duration time of must be increased and quality of dental tools should be enhanced. Whereas, 30% reported that all kind of minor oral surgery should be performed during period.

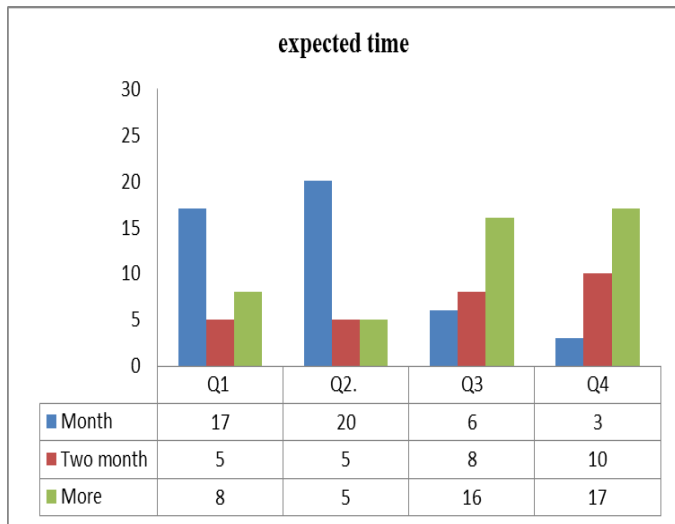


Figure 3:- participant’s skills improved time.

About 23.3% believe that improvement of clinical facilities will improve quality of outcomes. Lastly, only 6.7% mentioned that teaching assistance and staff must be improved. (Table 4), (Figure 4)

Table 4: What would you like to improve during the internship period?

Opinion	Frequency (N)	Percent (%)
Duration and dental tools	12	40.0
performing all the kind of minor surgery	9	30.0
clinical facility	7	23.3
teaching assistance and staff	2	6.7
	30	
Total		100.0

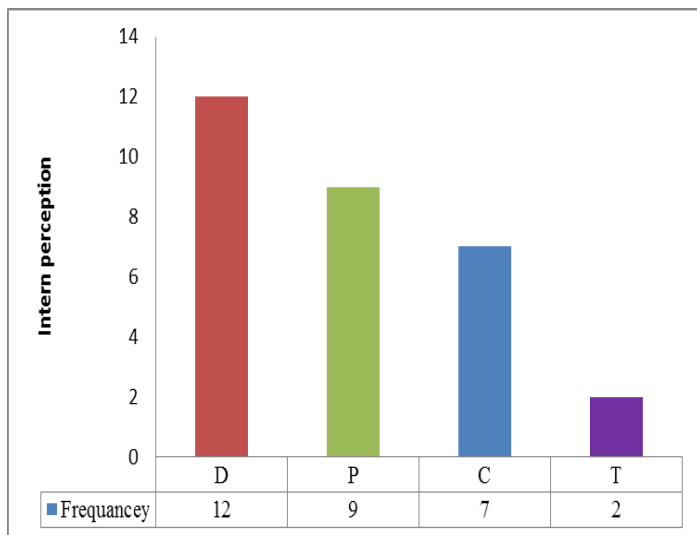


Figure 4:- Opinions participant’s to improve internship period.

Discussion

To the best of our knowledge, this is the first study conducting to evaluate the intern student’s perception toward the internship period in the OMFS (Oral and Maxillofacial Surgery) in dental college, Sebha University. From the results of the present study, it can be confirmed that internship students have an overall positive attitude towards implementing internship period (IP) at the dental institute.

Most participants (50%) were satisfied with the time that their spent in OMFS department and responded affirmatively about making changes in their teaching methodology based on SET feedback. Most students also felt that the faculty will make changes in their teaching methodology, thus making the internship program better.

The confidence level in performing oral and maxillofacial surgery procedures was investigated by several studies (15). Aldajani (2015) reported that undergraduate dental students have the highest level of confidence in giving local anesthesia (96.9%). While in our study, 56.75% have felt improvement and confidence in local anesthesia injection in first month of internship period. He also stated that no students rated the first extraction experience to be “very difficult”. In the same study, students mentioned the lowest level of confidence in taking a biopsy of an intra-oral lesion, or a lesion on the skin, whenever the surgical intervention involved managing of complicated extractions, extracting molars with root separation, or extracting impacted third molars, they reported relatively less confidence compared to confidence in performing simple extraction (15). Despite of, 36.7% of our participant in this study reported the high confidence to undertake independent practice, but 73.3% were less confidence in performing other minor surgical procedure, and 53.3% also mentioned less confidence to perform surgical extraction as impacted third molar and root separation.

In addition, many studies reported that after graduation, students have high level of confidence to undertake independent private practice and performing extractions and minor oral surgery procedures, confidence scores were favorable(17,12,18).

Durham et al (2007) reported that dental undergraduate students’ lack of self-confidence because surgical extraction is one of the most invasive procedures in dental clinical settings. They related this finding to the lack of practical experience in surgical extraction during clinical training (19). This may be also possibly due to postgraduate oral surgery students, who may be performing these extractions instead of undergraduate students as part of their teaching requirements program.

Parikh et al (2017) indicated that with proper training in oral surgery 77% students are confident enough to deal with patients (20). This finding was consistence with Macluskey et al (2012), who stated that comprehensive training enabled internship students and undergraduate dental students to ensure best patient care (21).

Meeting the certification requirement of the OMFS is accomplished by proper curriculum and teaching as well as assessment strategies. The curriculum and the teaching involve integrated didactic knowledge to the clinical requirements by means of effective clinical instructions in related topics, such as dento-alveolar surgery, anatomy, pathology, management of medically compromised patients, local anesthesia, and pain control. For this reason, around 40% of our participants had negative attitude against curriculum and intern’s OMFS program during internship period.

The clinical teaching of the OMFS courses provides undergraduate dental students with clinical training in local anesthetic techniques, dental extractions, and minor oral surgeries. This is taught to students in order to improve the skills acquired during undergraduate education (16).

Previous studies highlighted some fundamental issues related to the training (22). The most important issue is facing the different institute that needs to decide what standards and requirements have to be maintained and carried out for one to become eligible as an OMF Surgeon.

In this evaluation, internship students were very satisfied with their training experiences and supervision. Nearly all the participants were deemed excellently covered by the training program. The fact that internship students were able to discuss their training program with supervisors provided them great satisfaction from the start, also

facilitating their training experience and reducing the risk of conflicts.

Meanwhile, internship students satisfaction indicating the work required of them may be based on the fact that they were not asked to complete a certain number or type of clinical cases. Generally, most of dental training program only assigned walk-in patients or patients presenting to the clinic for pain treatment. Most patients who were requiring advanced treatment that can involve several visits were treated in specialists' clinics. Thus, the majority of internship student's clinical work involved first stages of treatment, such as proper diagnosis or tooth extraction.

This differs from undergraduate dental training where they are required to complete a certain number and type of dental cases, as they need approval and assessment during each step. Furthermore, evaluation criteria at the end of each training rotation are based mainly on internship student's attitudes and their integration with staff. All these findings were somewhat similar to those reported in other studies regarding dental students' and graduates' perceptions of their learning experiences during undergraduate and postgraduate periods (23,24).

In this study, 63.3% of internship students reported that clinical supervisors were always present. This may be due to the high number of available supervisors who, in general, are qualified and experienced, thereby enabling close relationships between internship students and supervisors (25). This relationship allows more time for them to enhance their clinical skills. Such improvement may be the main factor for internship student's high satisfaction, along with not having specific requirements for completing their internship period. The internship student's daily work with supervisors and staff at the training center may help them to deal with cases and had positive treatment outcome. Several studies revealed the importance of supervisor characteristics, such as availability, encouragement, and providing feedback to trainees. Moreover, there appeared to be no issues regarding deficiencies in dental materials and equipment. This may be of great importance to internship students, since it allows a smooth training experience. In addition, introducing interns to modern technology will teach them the latest updates in the field (26). According to the finding of our study, completing the training at institutes with such facilities might ensure high satisfaction levels of trainees.

While this questionnaire contained 11 items, it was mainly designed to determine if internship students believed their training experience improve their abilities to undertake independent practice, performing extraction, dealing with minor oral surgery and medically compromised patient. Such improvements are the main outcome expected from the internship year and may facilitate the transition to practice. Thus, receiving internship student's feedback is essential to evaluate this outcome. In addition to internship questionnaires, internship also had a form to determine the important issues that need improvement during internship period. So, the highest feedback that reported the duration and dental tools must be increased, then following the practice all type of oral minor surgery and the clinical facility respectively, where the less mentioned were the supervisors and staff.

Constructive feedback is believed to be an assistant tool for an effective learning experience. Internships students revealed that encouragement was beneficial for communication with supervisors and enabled a stronger commitment to learn (27, 15). Despite the fact that many internship students reported that critical feedback is important in developing clinical skills, it should be delivered in a respectful manner to avoid causing embarrassment particularly in front of the patients and their colleagues or other interns.

Conclusion

This study revealed the internship period for the majority of undergraduate students is not sufficient to perform the all minor oral surgical procedures. They reported the high level of confidence and satisfaction during the internship period.

It is recommended that dental college make every possible effort to routine update the program, period, and clinical facilities of oral surgery course for intern's period. In addition, high level of satisfaction can be obtained when the interns have an enough time to improve their skills and performing the all minor oral surgical procedures during the internship period. As well as, the availability of supervisors and staff with full awareness of learning outcomes will improve the learning experience of dental interns.

Abbreviations and Acronyms

OMFS = Oral Maxillo-Facial Surgery

ISCP= Intercollegiate Surgical Curriculum Programme

SET= Student Evaluating Teaching

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There is no funding

Availability of data and materials

The data used in this study can be available from the corresponding author on request, there is not publicly available.

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