



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076

**Tender PR No. 1000011360 Technical Specifications of Automated
DNA/RNA Synthesizer**

Most robust, fully automated bench top Solid Phase Automated DN/RNA Synthesizer with excellent performance, ease of operation, flexibility for our Central instrument facility to be used by multiple users.

S. No	Desired Specifications
1	Operating volt and frequency should be 230 V and 50 Hz respectively
2	Should be a closed system, always under Argon protective atmosphere. Open systems are not acceptable.
2	System should be compact, and should not have long tubes and it should consume minimum reagents to synthesize long and short oligos.
3	Online trityl monitor is must and should be standard and not an option. (Collecting and measuring full trityl should provide direct and reliable information; not simply verifying in flow detectors.)
4	Should be capable of having minimum 6 columns and minimum 12 amidite ports in which at least 10 should be online
5	At least 2 port should be dedicated to small volume vials for modified amidites
6	Should have the capability to synthesize scale up to 10 μ mol
7	Should capable of new synthesis start on every position while synthesis running.
8	Universal column fitting: Should be possible to use standard columns of all suppliers worldwide
9	Should be a compact system having no moving parts
10	System should be easily programmable by an attached computer
11	The software should be user-friendly and should have the capability to reliably store, view and transfer the synthesis data, in commonly used formats (such as comma/tab separated value files)
12	High synthesis efficiency (>98% for each coupling step) should be achievable under minimal air exposure conditions and should be capable of synthesizing

	oligonucleotides lengths up to 80mers or more.
13	Start-up synthesis kit including bottle cacap adapters for 450 mL, 4 L, GL 45 and GL 38, bottles, o-rings d tubes and columns must be provided.
14	Spare parts should be available for at least 10 years from the date of supply.
15	In addition to start-up synthesis kit, the essential spare parts required for 5 years of hassle-free operations need to be provided. This should include bottle caps, O rings, tubings, valves, membranes, connectors, vials, electronic boards for the machine and the trityl monitor etc.
16	The system must be new and not refurbished.
17	System design should be such that, no exhaust cabinet is necessary.
18	All the necessary authentic licensed software for the instrument and computer, connecting cables and plugs compatible to Indian electrical requirements must be provided.
19	A branded PC with i5 processor, 8GB ARM and 1GB hard drive with 22inch monitor needs to be supplied
20	An appropriate branded UPS to bear the electrical load of the equipment and the PC having at least 30 min back up needs to be supplied.
21	Gas regulators with appropriate tubes and adaptors must be provided.
22	The System should be provided with a total of 5 years Warranty
23	Availability of qualified and professionally trained service support in India, with responsetimes within 48-hours need to be ensured. Service support should be assured for at least 10 years from the date of installation.
24	The installation and training should be provided by the trained engineers. Also, minimum 1 maintenance service visit per year need to be provided.