List of table

Tem No		Page No
Table (1 - 1)	the biological changes at different temperatures	15
Table (1-2) of temperatu	the thermal effect on biological tissue as a function re	18
Table (1 - 3)	the common uropathogenic microorganism	23
Table (2-1) Causing UTI	the biochemical identification tests for some bacteria	34
Table (2 - 2)	the groups classification and the irradiation parameters	40
Table (3 - 1)	the results of the biochemical tests of <i>E.Coli</i> isolates	45
Table (3 - 2)	biochemical reactions of <i>p</i> . aerations isolates	48
Table (3 - 3)	the results of the biochemical tests of S.aureus b	51
Table (3-4)	the results of the biochemical tests of. <i>proteus mirabili</i>	s 54

List of figure

Tem No	page No			
Fig (1-1a) the two steps "before" and "after" of the excitation of a three – level system by electron impact from the lowest energy level E_0 to the highest one E_2 .	3			
Fig (1-1b) the two steps "before" and "after" of spontaneous emission of a three – level system from level 2 to level1.	4			
Fig (1-2) the two steps "before" and "after" of a three –level system undergoing stimulated emission from level 2 to level 1 by a photon of energy E_2 - E_1 = hv12. The process produces more photons with the same energy.	5			
Fig (1-3) the energy level diagram for neodymium, a four level energy system in which laser action occurs between two intermediate levels above the ground state.	7			
Fig (1-4) the basic components of a discharge exited gas laser	8			
Fig (1-5)An energy –level diagram of He-Ne laser				
Fig (1-6) the mechanism of interaction between laser beam and tissue	16			
Fig (1-7) the structure of a bacteria cell	22			
Fig (2-1) the step arrangement of the laser-bacteria irradiation	30			
Fig (3-a1) the biochemical reaction of <i>E.coli</i>	46			
Fig (3-b1) culture of <i>E.coli</i> on McConkey agar showing pink, lactose Fermenting colonies	47			
Fig (3-a2) the biochemical reaction of P. aeruginosa	49			
Fig (3-b2) the a picture oxidase test by P.aeruginosa	50			
Fig (3-a3) the culture of S.aureus on blood showing golden colonies	52			

Fig (3-b3)	the DN ase test	53
Fig (3-a4)	the biochemical tests of proteus mirabilis	55
Fig (3-b4)	the swarming growth of proteus mirabilis on blood agar	56
Fig (3-a5)	absorption spectrum of TBO	57
Fig (3-b5)	absorption spectrum of CV	58
Fig (3-6)	the effect of CV on <i>E.coli</i> at percentages 5%-15% and 45%	59
Fig (3-7)	the effect of TBO on <i>E.coli</i> at the percentages 5%, 15% and 45%	60
Fig (3-8) 61	the effect of He Ne laser on laser <i>E.coli</i> ATCC25922with TBO	
	entages 5%, 15% and 45%	
Fig (3-9) 61 and 15%	the effect of He Ne laser on E.coli ATCC25922 with the CV percentages	5%
Fig (3-10) 62 5%-15% ar	the effect of He Ne laser on S.aureusATCC25923 with TBO percentages nd 45%	5
Fig (3-11) 63 And 15%	the effect of He Ne laser on S.aureus ATCC25923 with ${f CV}$ percentages	5%
Fig (3-12)	the effect of He Ne laser on <i>E.coli</i> with TBO 5%-15% and 45%	66
Fig (3-13) and 15%	the effect of He Ne laser on <i>E.coli</i> with the CV percentages 5%	66
•••	the effect of He Ne laser on proteus mirabilis with TBO s 5%-15% and 45%	67
Fig (3-15) 5%-15%	the effect of He Ne laser on proteus mirabilis with CV	68
•••	the effect of He Ne laser Pseudomonas aeruginosa percentages 5%-15% and 45%	69

Fig (3-17) the effect of He Ne laser Pseudomonas aeruginosa with CV percentages 5% and 15%	69
Fig (3-18) the effect of He Ne laser Staphylococcus aureus with TBO percentages 5%-15% and 45%	70
Fig (3-19) the effect of He Ne laser Staphylococcus aureus with 5%-15% CV percentage	71
Fig (3-20) the effect of He Ne laser on standard organism (S.aureus) with TBO 75%	73