CHAPTER - I

Introduction

INTRODUCTION

Quinazolines and condensed quinazolines received the attention of medicinal chemists, due to their wide range of biological activities like analgesic, antiinflammatory, antibacterial, antifungal, antiviral, antihistaminic, antihypertensive and anticancer. A brief survey of literature is described here.

Wammoff and coworkers[1] in 1985 synthesized a series of 1,3,4-triazoloquinazolin-4-ones **(1)** and studied their antihypertensive activity. The compound 1,2,9-trimethyl-1,3,4-triazoloquinazolin-4(3*H*)-one was found to exhibit potent antihypertensive activity.

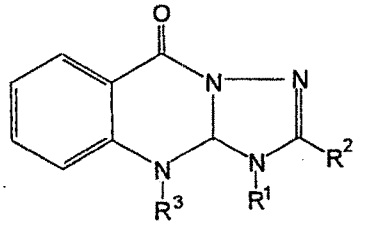
In 1986, Chien and coworkers[2] synthesized some 1,3,4-triazolo quinazolin-4-ones **(2)** speculating antihypertensive property. The compound 2,9-dimethyl-1,3,4-triazoloquinazolin-4(3*H*)-one was found to be the most active antihypertensive agent in this series.

The same authors[3] in 1988, synthesized a series of 1,2,4-triazolo quinazolines **(3)** and studied their antihypertensive activity. These compounds also showed antihypertensive activity ranging from 20.5 to 46.7% with maximum activity when R was a thiol substituent.

Later, Ram and coworkers[4] in 1990, prepared a series of 4-substituted-1,2,4-triazoloqunazolin-4-ones **(4)** with the piperazine moiety at 1-position. These compounds were found to possess antihypertensive activity.

Zhoghna[5] in 1993, reported the synthesis of the following 1,7,8-tri substituted-1,2,4-triazoloquinazolines **(5)** by substituting arylamine at 4-position. Pharmacological investigation of these compounds showed significant antihypertensive activity.

In 2000, Garcia and coworkers[6] prepared a series of quinazolin-2,4-diones **(6)** with a substituted piperazine moiety at 3-position. These compounds were found to exhibit antihypertensive activity.



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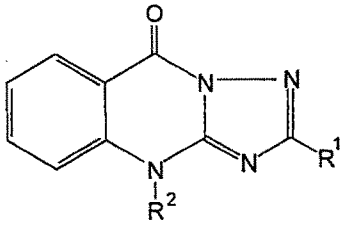

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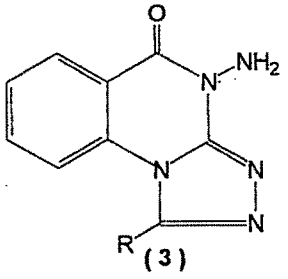

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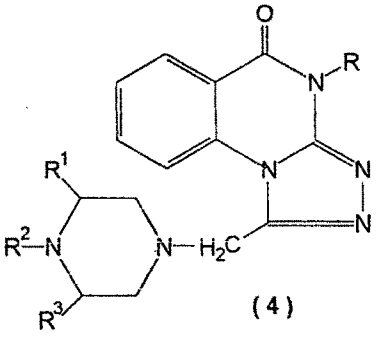

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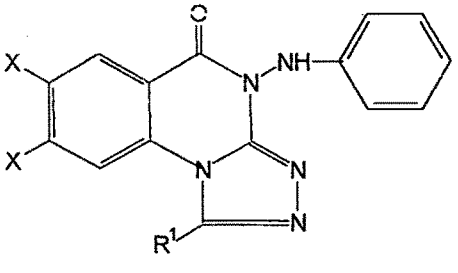

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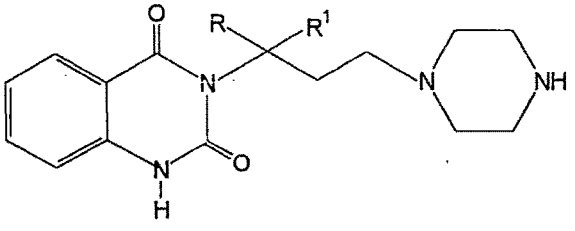

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Harukazu and coworkers[7] in 1996 synthesized a series of quinazolin-2,4-diones **(7)** by introducing arylsulfonyl moiety at 3-position and studied their antihypertensive activity. These compounds exhibited significant antihypertensive activity.

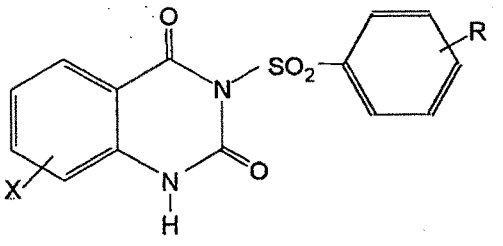
Rivero and coworkers[8] in 1998, synthesized some 3-substituted quinazolin-2,4-diones **(8)** and investigated their antihypertensive activity. These compounds were found to exhibit significant activity.

Kotto and coworkers[9] in 1965, prepared a series of 2-substituted amino-5,6,7,8-substituted quinazolin-4-ones **(9)** with the aim of producing antihypertensive agents. These compounds exhibited antihypertensive activity by inhibiting the angiotensin converting enzyme.

Trimony and coworkers[10] in 1968, synthesized a series of 2,6,7-trisubstituted quinazolin-4-ones and studied their antihypertensive activity. The compound 2-diethylamino-6,7-dimethoxyquinazolin-4-one **(10)** was found to be the most active agent in this series.

In 1995, Pathak and coworkers[11] prepared certain analogs of quinazolin-2,4-diones **(11)** with substitution at position-3. These compounds were reported to exhibit significant antihypertensive activity.

Jung Mou and coworkers[12] in 1997, reported the synthesis of substituted imidazolo [1,2-c] quinazolines and studied their antihypertensive activity.



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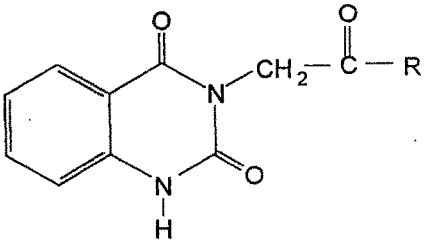

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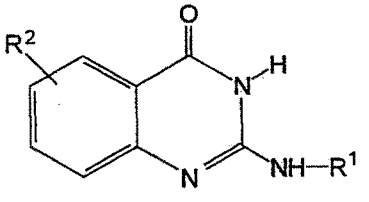

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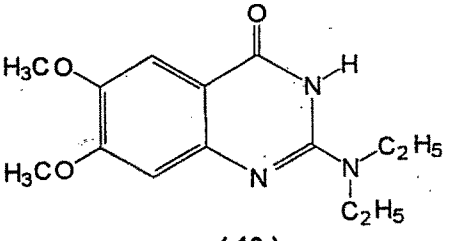

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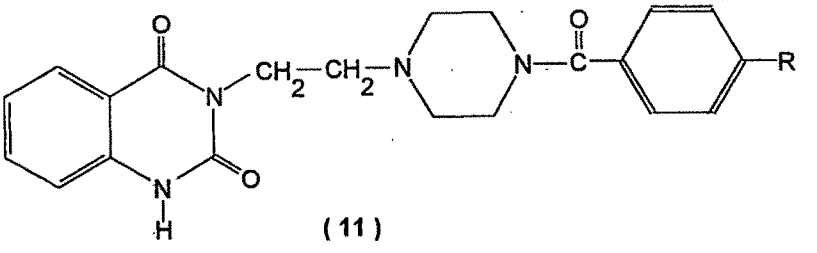

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In 1993, Chern and coworkers[13] prepared some 2,3-dihydro imidazolo [1,2-c] quinazolines for their antihypertensive property. These compounds were found to exhibit antihypertensive activity by blocking α_1-adrenergic receptor.

The same authors[14] in 1998, synthesized a series of fused quinazolines and 1,2,4-benzothiadiazine-1,1-dioxides with the aim of improvising α-adrenergic blocking activity.These compounds shown significant α-adrengic antagonistic activity.

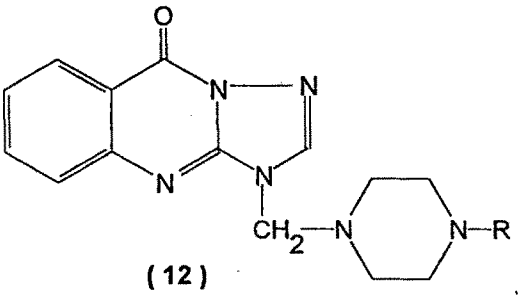
West and coworkers[15] in 1981, synthesized a series of 1,3,4-triazolo quinazolin-4-ones **(12)** by placing 4-substitutedpiperazinyl moiety at 1-position with the aim of having antihistaminic activity. These compounds shown significant antihistaminic activity.

Kottke and coworkers[16] in 1983, prepared a series of 1,4-disubstituted triazoloquinazolin-4-ones by placing halogens at 7 and 8 positions. These compounds were found to inhibit passive cutaneous anaphylaxis.

Fujio and coworkers[17] in 1998, prepared some 2-amino-5,6,7,8-substituted quinazolines **(13)** with substituted amino group at 4-position. These compounds were found to exhibit antiallergic activity.

In the same year, Teruharu and coworkers[18] synthesized a series of 2-amino-5,6,7,8-substituted quinazolines **(14)** by incorporating substituted amide group at 4-position.The pharmacological investigation of these compounds shown significant antiallergic activity.

In 1989, Lemura and coworkers[19] synthesized the following 2-(4-substituted piperazinylmethyl)-3-substituted quinazolin-4-ones **(15)** and studied their antihistaminic activity.



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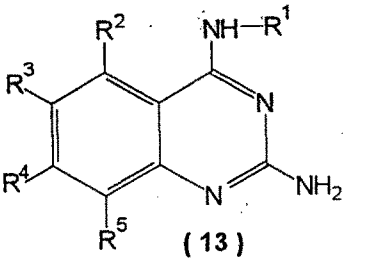

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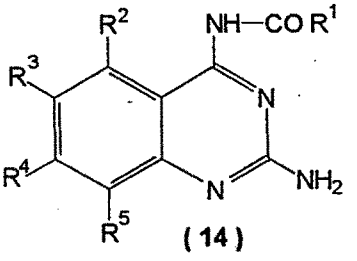

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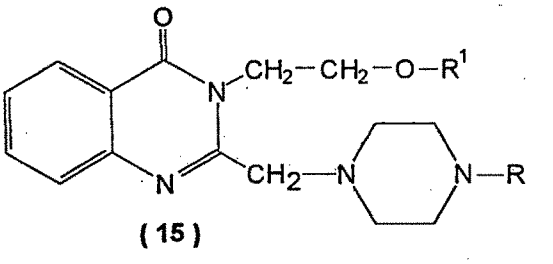

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In 1982, Agnihotri and coworkers[20] prepared some 2,3-disubstituted quinazolin-4(3*H*)-ones (**16**) and found them to exhibit antiviral activity.

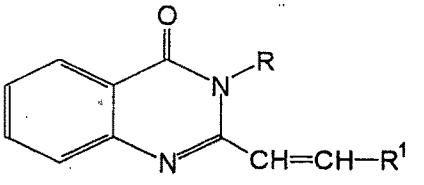
In 1983, Pandey and coworkers[21] prepared a series of 1,2,4-triazoloquinazolines (**17**) and tested them for their antimicrobial property. These compounds were found to possess significant antibacterial and antifungal activities

In the same year, Dash and coworkers[22] synthesized a series of 2-substituted quinazolines bearing a thiophene ring at 3-position (**18**) and tested the compounds for their antimicrobial activity. These compounds were found to exhibit antifungal activity.

In 1985, Parasharya and coworkers[23] prepared a series of 2,3-disubstituted quinazolin-4-ones (**19**) and found them to possess antibacterial activity.

Pandey and coworkers[24], in the same year synthesized a series of 2,3-disubstituted quinazolines (**20**). Biological investigation of these compounds showed antiviral activity.

In 1989, Khalil and coworkers[25] prepared of a series of 2-oxatriazolin-4(3*H*)-quinazolines (**21**). These compounds were found to exhibit antimicrobial activity.



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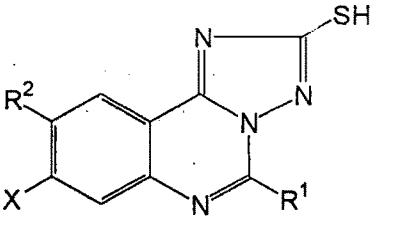

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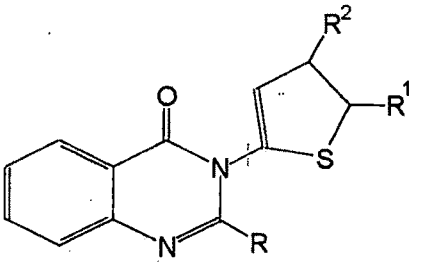

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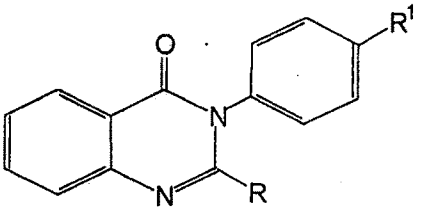

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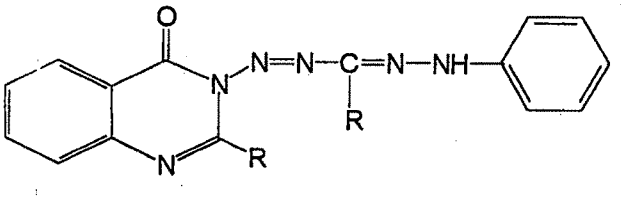

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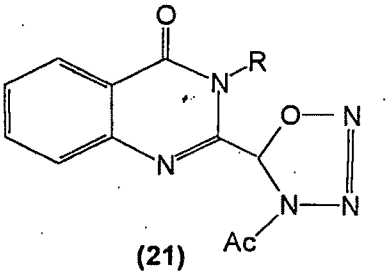

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Barakat[26] in 1990, prepared a series of 3-aryl-2-pyridinium ethyl-4(3*H*)-quinazolines and studied their antimicrobial activity.

In 1993, Kreiutzberger and coworkers[27] prepared a series of 2-guanidino-3-substituted quinazolin-4-ones (**22**) and studied them for antibacterial activity.

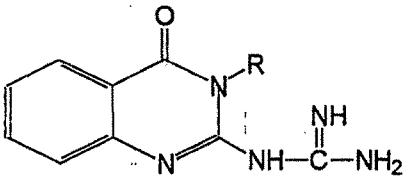
In 1995, Jantova and coworkers reported[28] the synthesis of 2-morpholino-6-chloro-4-substituted quinazolines (**23**). These compounds were found to exhibit antibacterial activity.

In 1995, Ganjee and coworkers[29] reported the synthesis of a series of 2,4-diamino-6-methylamino quinazolines (**24**) and its derivatives. These compounds were found to exhibit antifungal activity.

In the same year Chan and coworkers[30] prepared a series of 2,4-diamino quinazolines (**25**) by replacing the 6-methylamino group with the thiophenyl group. These compounds were found to exhibit selective inhibition of *Candida albicans* dihydrofolate reductase, with MIC of 0.05 μg/ml

Rowosky and coworkers[31] in the same year synthesized a series of 2,4-diamino quinazolines (**26**) by introducing halogen at 5 and 6 position. These compounds showed significant antibacterial activity.

In 1996, Gaur and coworkers[32] synthesized some novel 2-substituted methyl-3-(4-substituted sulphonamido phenyl) quinazolin-4(3*H*)-ones (**27**) and tested these compounds for their antibacterial activity.



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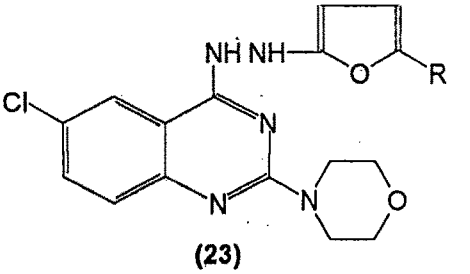

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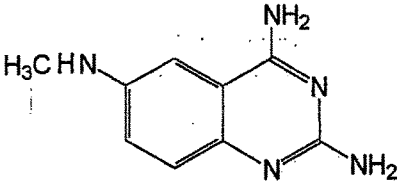

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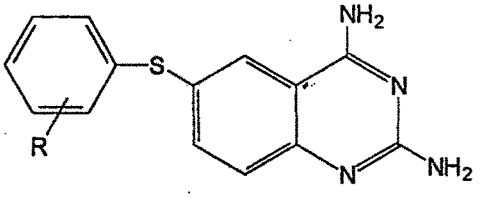

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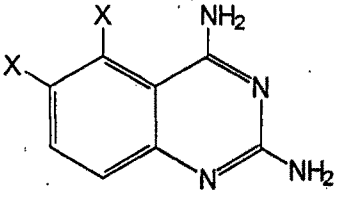

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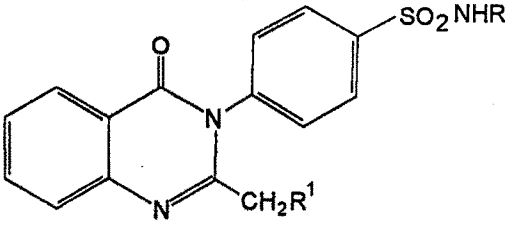

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Zeid and coworkers[33] in the same year reported the synthesis of some 2,3-disubstituted quinazolines. These compounds were found to possess antimicrobial activity.

In 1996, Desai and coworkers[34] synthesized a few 1-substituted-2-phenyl-3-arylamino-4-oxo quinazolines. These compounds were found to exhibit potent anti HIV activity.

Oliver and coworkers[35] in 1996, prepared some imidazolo quinazolines and 3-substituted quinazolin-4-ones. Biological investigation of these compounds showed antifungal activity.

Mishra and coworkers[36], in 1997 synthesized some 2-benzyl-3-aryl quinazolin-4-ones (**28**) and studied their antimicrobial activity

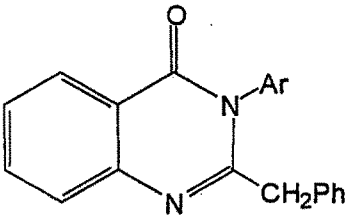
In 1997, Abdul Hamid[37] synthesized certain analogs of 2-phenyl-3-substituted quinazolin-4(3*H*)-ones (**29**). These compounds were found to possess antimicrobial activity.

Abdul Rahman and coworkers[38] in the same year reported the synthesis of a series of 2,3-disubstituted quinazolines (**30**). These compounds were found to exhibit antimicrobial activity.

Shiba and coworkers[39] in 1997, synthesized some novel substituted bisquinazolin-4-ones (**31**) and tested them for their antimicrobial activity.

Kumar and coworker, in 1997 reported[40] the synthesis and antifungal activity of a series of 2,6,8-trisubstituted-3-(2-thiazolyl) quinazolin-4-ones (**32**).

In 1997, Assy and coworkers[41] prepared certain analogs of substituted quinazolines. These compounds were found to exhibit significant antibacterial activity.



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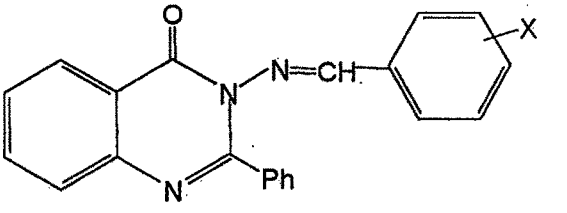

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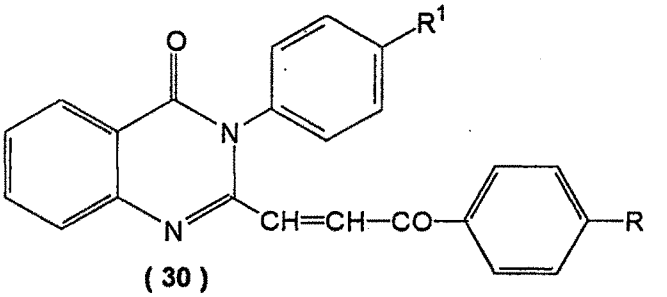

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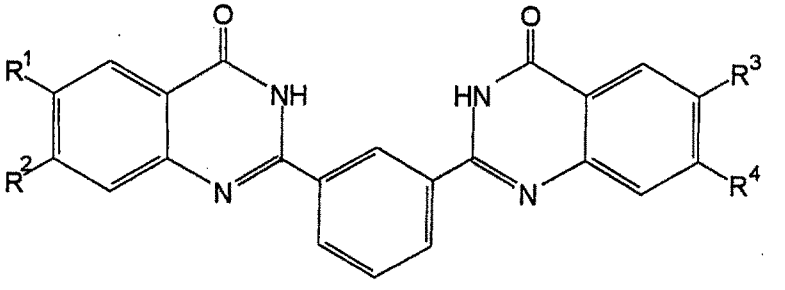

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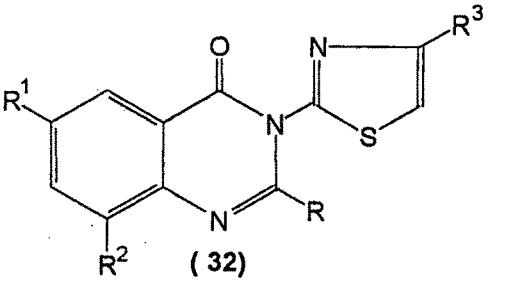

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Tamany and coworkers in 1997, reported[42] the synthesis of some novel 2,6,8-trisubstituted quinazolines and studied their antimicrobial activity.

In the same year Abdul Hamide[43] synthesized certain analogs of 2-Phenyl-6-iodo quinazolin-4(3*H*)-ones. On testing for antimicrobial activity, these compounds were found to exhibit antibacterial activity.

In 1997 Kumar and coworkers, reported[44] the synthesis of some 2-substituted aryl-6,8-disubstituted quinazolin-4-ones. These compounds were found to possess antifungal activity.

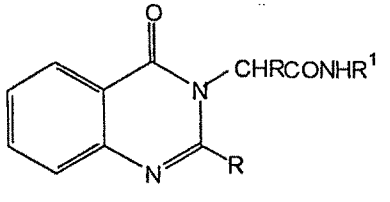
In 1998, Kovalenko[45] prepared some novel 2,3-disubstituted quinazolines (**33**). These compounds were reported to exhibit antimicrobial activity.

In 1998, Shivarama and coworkers reported[46] the synthesis and antibacterial activity of a series of 2-(nitrofurylvinyl)-3-substituted arylquinazolines (**34**).

Rakesh and coworkers[47], in 1998 synthesized a series of 1-methyl-2-thioxo-3-substituted quinazolin-4-ones (**35**). These compounds were found to exhibit antimicrobial activity.

In the same year Habesh and coworkers[48] synthesized certain analogs of 2-methyl-3-substituted quinazolines (**36**) and studied their antimicrobial activity.

Aziza and coworkers[49], in the same year prepared a series of 2-ethyl-6-iodo-3-substituted quinazolines (**37**). These compounds were reported to exhibit antibacterial activity.



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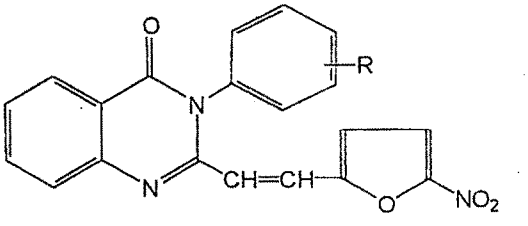

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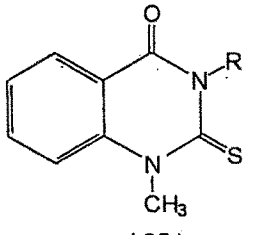

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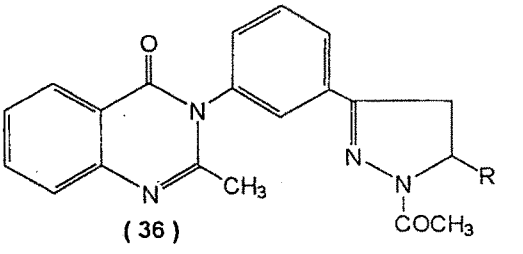

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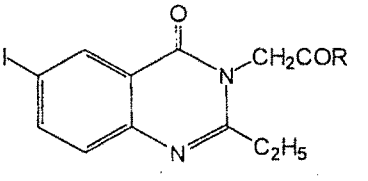

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Abdul Rahman in 1998, reported[50] the synthesis of several 2,3-disubstituted quinazolin-4-ones. These compounds were shown to possess antimicrobial activity.

Arti and coworkers[51] in 1998, prepared a series of 2-methylbenzylamino quinazolin-4(3*H*)-ones. These compounds were reported to exhibit antimicrobial activity.

In 1998, Bhadbesh Naik and coworkers[52] synthesized some 1-(2-methyl-4-quinolinyl) quinazolin-2-ones and studied their antibacterial activity.

In 1998, Kumar and coworkers[53] synthesized a series of novel 6,8-disubstituted-2-aryl quinazolin-4(3*H*)-ones. These compounds were reported to possess antifungal activity.

In the same year, Patnaik and coworkers reported[54] the synthesis of certain analogs of 3-aryl-2-(4-arylthiazol-2-yl-amino methyl) quniazolin-4-ones and studied their antifungal activity.

James and coworkers[55] in 1998, synthesized and patented a series of substituted quinazolines. These compounds showed significant antifungal activity.

In 1998, Desai and coworkers[56] prepared a series of substituted quinazolines. These compounds were found to exhibit antitubercular activity.

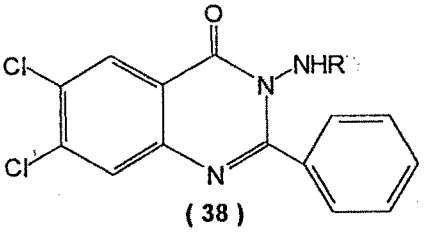
Karel and coworkers[57] in 1998, synthesized some novel quinazoline derivatives. These compounds were reported to posses antitubercular activity.

In 1999, Ibrahim[58] synthesized various 2,3-disubstituted quinazolin-4-one derivatives (**38**) by introducing chloro group at 6 and 8 positions. These compounds were found to exhibit antimicrobial activity.

Kovalenko[59] in 1999, synthesized some 2,3,6,8-tetrasubstituted quinazolin-4(3*H*)-ones (**39**) and these compounds were found to exhibit more potent antimicrobial activity.

Shivarama and coworkers[60], in 1999 synthesized a series of 2-furyl vinyl-3-aryl quinazolin-4(3*H*)-ones (**40**). These compounds were reported to exhibit antibacterial activity.

In 1999, Farghaly and coworkers[61] prepared a series of N,N-disubstituted dithiocarbamic esters (**41**) derived from 2-methyl quinazolines. These compounds were reported to possess antifungal activity.



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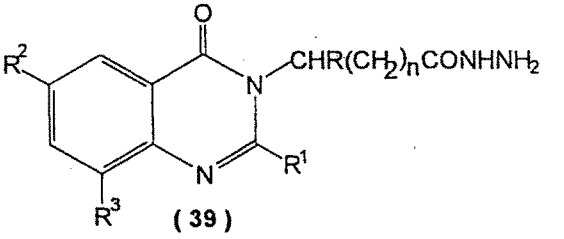

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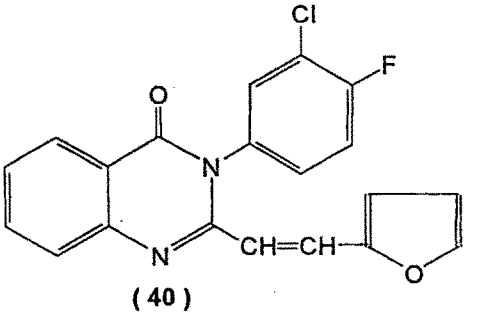

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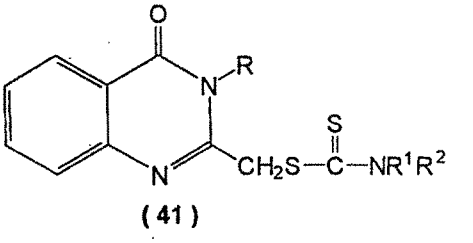


(41)

In 1999, Ramasarma and coworkers reported[62] the synthesis of some novel oxoquinazolyl thiosemicarbazones. These compounds were found to exhibit antimicrobial activity.

Hiti and coworkers[63] in the same year synthesized some quinazolin-4-yl hydrazones and dihydrazones. These compounds showed significant antimicrobial activity.

In 1999, Purohit and coworkers[64] synthesized certain analogs of 1-phenylamino quinazolones and studied them for their antimicrobial activity.

Jantova and coworkers[65] in 1999, prepared a series of substituted quinazolines. Biological investigation of these compounds showed antibacterial activity.

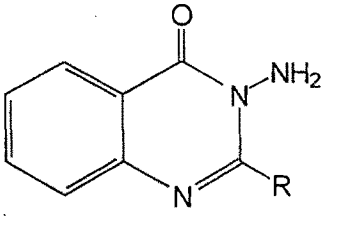
In the same year Kung Pei-pei and coworkers reported[66] the structural activity relationship of a series of 2-substituted quinazolines and their antibacterial activity.

Ahluwalia and coworkers[67] in the year 1999, prepared a series of substituted quinazolines and studied their antimicrobial activity.

Pandeya and coworkers[68] in 1999, synthesized some Schiff's and Mannich bases of isatin derivatives with 3-amino-2-methylthio quinazolin-4(3*H*)-ones and reported their antibacterial, antifungal and anti HIV activities.

Liu Xin and coworkers[69] in 1999, reported the synthesis of some novel hydroxamic (4-quinazolinyl) thioesters. These compounds were reported to exhibit antifungal activity.

In 1999, Pandey and coworkers[70] synthesized a series of 3-amino-2-substituted quinazolin-4-ones (**42**) and studied their antiviral activity.



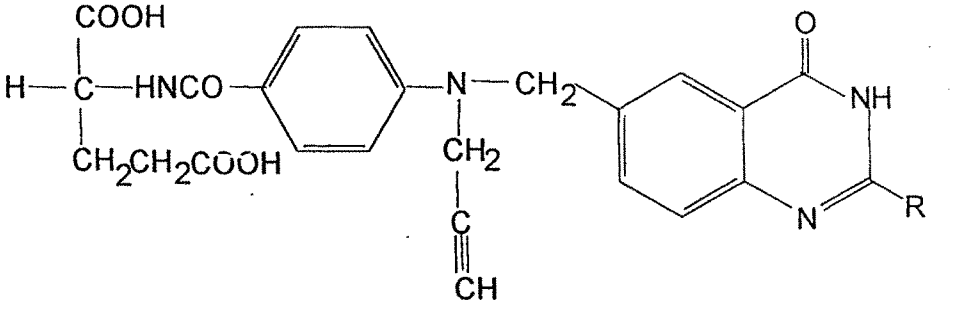
(42)

EL Gaby[71] in 2000, synthesizied a series of substituted quinazolines and studied their antibacterial activity. These compounds were found to possess good antibacterial activity.

In 2000, Jantova and coworkers[72] synthesized some trisubstituted quinazolines and studied their antibacterial activity.

Ghorab and coworkers[73] in the same year prepared some new fluorinated hydroquinazoline derivatives and studied their antifungal activity.

Robba and coworkers[74] in 1974, prepared some N-[[4-(amino-3,4-dihydro-4-oxoquinazolyl)methyl]-N-prop-2-yl-amino]benzoylyl-L-glutamic acid (**43**) and its derivatives as selective thymidylate synthetase inhibitors. These compounds showed encouraging antitumor activity against breast and ovarian cancer in clinical trials.



(43)

Boyle and coworkers[75] in 1993, reported the synthesis of some 2-methyl-6-substituted quinazolines. These compounds were found to exhibit antitumor activity.

Brana and coworkers[76] in 1994, prepared a series of benzimidazo [1,2-*c*]quinazolines. When tested for anticancer activity, these compounds were found to exhibit potent antitumor activity.

Mang and coworkers[77] in the same year synthesized some 2,4-diamino-6-substituted quinazolines (**44**) and studied their anticancer activity.

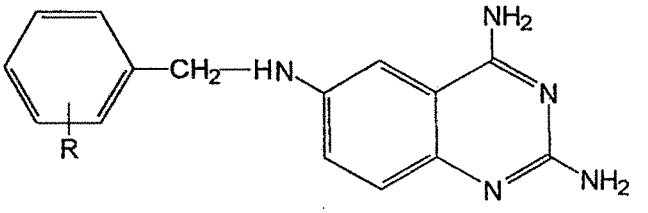
Arnold and coworkers[78] in 1995, prepared a series of 4,5,6,7-tetra substituted quinazolines (**45**). These compounds were found to exhibit anticancer activity.

In 1997, Jones and coworkers[79] synthesized a series of 3-chloro-N-[(3,4-dihydro-2-methyl-4-oxo-6-quinazolinyl)methyl]-4-phenyl sulphonyl)-N-(prop-2-nyl-)aniline and studied their antitumor activity.

Kazuo and coworkers[80] in 1999, synthesized certain analogs of substituted quinazolines and studied their antitumor, antiatherosclerotic and antidiabetic activities.

In the same year Fathima and coworkers reported[81] the synthesis of 4-arylamino-6,7-disubstituted quinazolines (**46**) and studied them for antitumor activity.

Papoulis and coworkers[82] in the same year prepared a series of 2,4-diamino-6-(arylmethyl)-5,6,7,8-tetrahydro quinazolines (**47**). These compounds were reported to exhibit antitumor activity.



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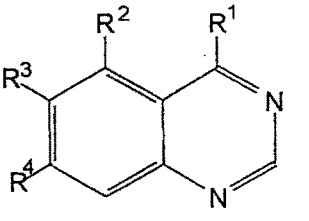

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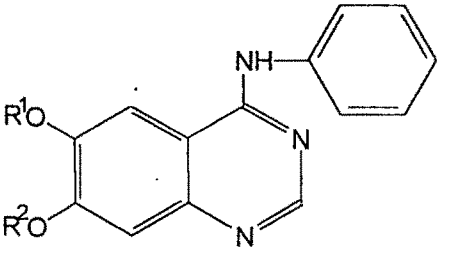

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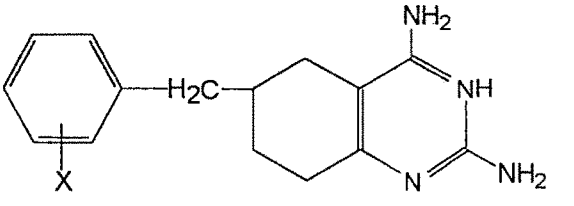


(47)

Raffa and coworkers in 1999, reported[83] the synthesis of some 3-(3-phenylisoxazo-5-yl-)quinazoline derivatives and studied their antineoplastic activity.

Mann Jen and coworkers[84] in 2000, synthesized a series of 2,3-dihydro -3-methoxy-2-phenyl-4-quinazolinones and studied their anticancer activity.

In the same year Lipunova and coworkers reported[85] the synthesis of some novel fluorinated condensed quinazolines. These compounds were found to exhibit antitumor activity.

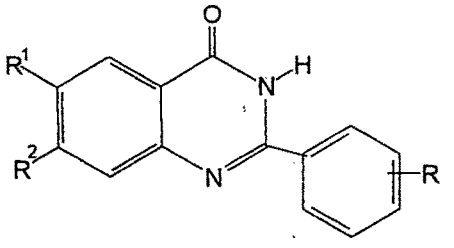
In 2000, Mann Jen and coworkers[86] synthesized some novel 2-aryl-6,7- disubstituted quinazolin-4-ones (**48**) and studied their antitumor activity.

EL Sherbeny and coworkers[87] in 2000, prepared a series of benzothiazol-2,3-*b*-quinazoline derivatives (**49**). These compounds were found to possess antitumor activity.

In the same year Yanong and coworkers reported[88] the synthesis, SAR and anitumor activity of a series of 4-subsitututed anilino-3-cyano-6,7-dimethoxy quinazolines (**50**).

Richard and coworkers[89] in 2001, synthesized and patented a series of 4-(3-ethylpheylamino) quinazolines (**51**). These compounds were found to possess anticancer activity.

Lezlecovsky and coworkers[90] in 1965, prepared a series of 4-phenyl-6,7,8,9-substituted-1,2,4-triazoloquinazolines (**52**) and studied their analgesic and antiinflammatory activities.



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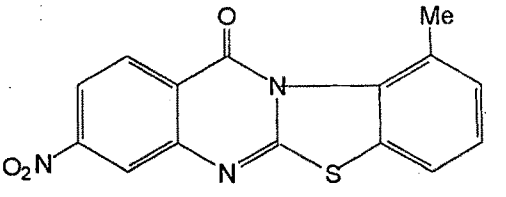

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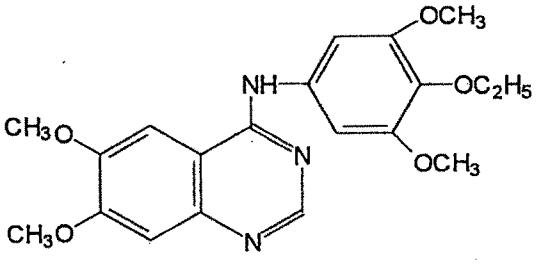

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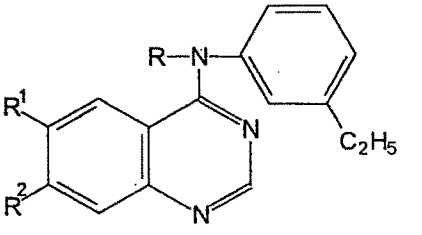
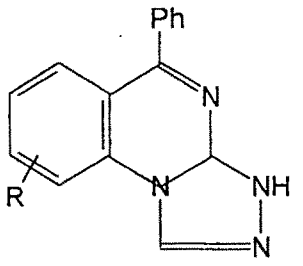


(51)

In 1977, Yamamoto and coworkers[91] synthesized some 1,5,7,8-tetrasubstituted-1,2,4-triazoloquinazolines (**53**). These compounds were reported to possess analgesic, antiinflammatory, tranquillizing and antiviral activities.

In 1977, Koizomi and coworkers[92] prepared a series of 2,6-disubstituted quinazolin-4-ones (**54**) as antiinflammatory agents.



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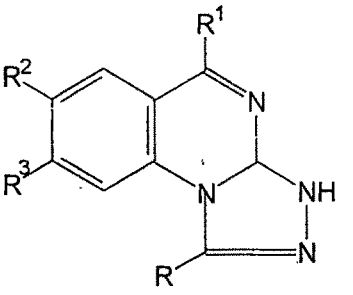

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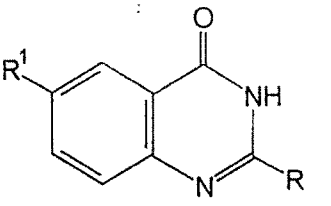


(54)

In 1978, G.Hardtman and coworkers[93] synthesized and patented some 1,3,4-triazoloquinazolines (**55**). The pharmacological investigations of these compounds revealed their analgesic, antiinflammatory, tranquillizing and antiviral activities.

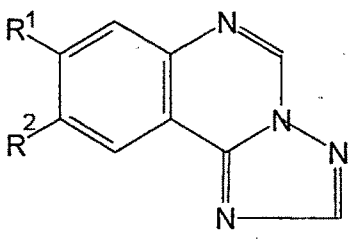
F.G.Hardtman and coworkers[94] in the same year prepared a series of 4,7,8-trisubstituted-1,3,4-triazoloquinazolines (**56**). These compounds exhibited antiinflammatory, tranquillizing and antiviral activities.

Kottke and coworkers[95] in 1988, prepared a series of 1,2,8,9-tetrasubstituted-1,3,4-triazoloquinazolines (**57**). These compounds were found to exhibit antirheumatic activity.

In 1988, the same authors[96] also synthesized substituted triazoloquinazolinones (**58**). These compounds exhibited antirheumatic and antianaphylactic activities.

Kamal and coworkers in 1988, reported[97] the synthesis of some 1,5,7-trisubstituted-1,2,4-triazoloquinazolines (**59**). These compounds shown both analgesic and antiinflammatory activities.

Nigam and coworkers[98] in 1991, synthesized some 3-substituted aryl-2,6-disubstituted quinazolines (**60**). These compounds exhibited antiinflammatory activities.



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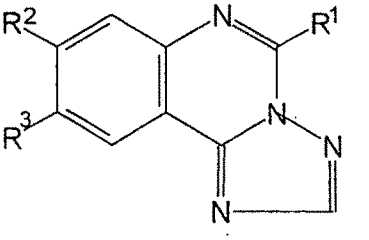

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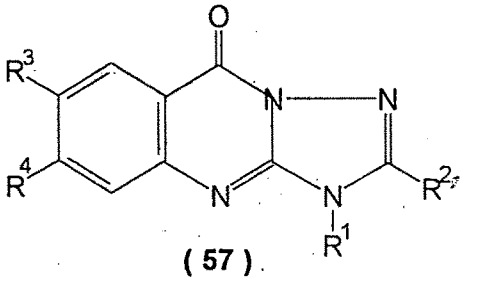

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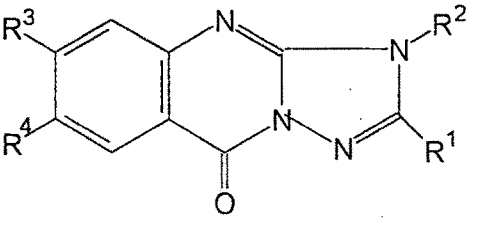

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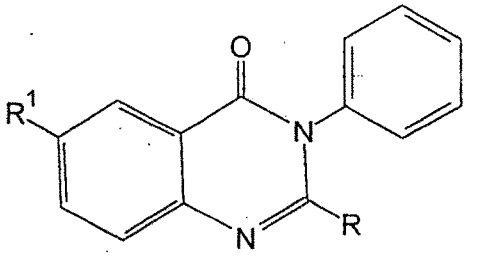

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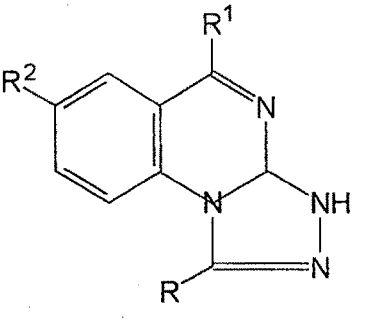


(59)

In 1993, Srivastava and coworkers[99] prepared a series of substituted indolyl quinazolin-4-ones and studied their analgesic and antiinflammatory activities.

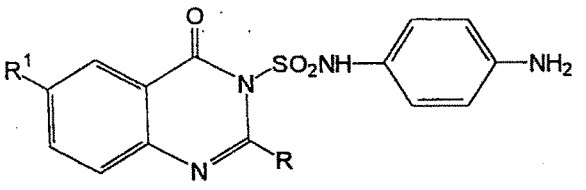
Hitkari and coworkers[100] in 1995, synthesized some 6-substituted-2-alkyl-3-(4-aminobenzene sulphonamido) quinazolin-4-ones (**61**). These compounds showed antiinflammatory activity.

In 1996, Peter and coworkers reported[101] a series substituted quinazolines (**62**) by incorporating amino group at 4 position. These compounds were found to possess antiinflammatory activity.

Hiroshi and coworkers[102] in 1996, prepared certain analogs of substituted dioxoquinazolines. These compounds were reported to possess antiinflammatory activity.

Saravanan and coworkers[103] in 1998, prepared some 2,3-disustituted-6-bromo quinazolin-4-ones (**63**) and studied their antiinflammatory activity.

Rity and coworkers[104] in 1998, prepared certain analogs of 2-methyl-substituted quinazolin-4-ones (**64**) and studied their antiinflammatory activity.



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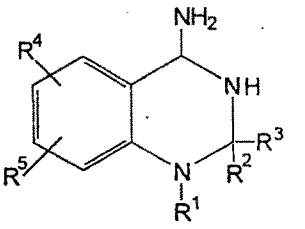

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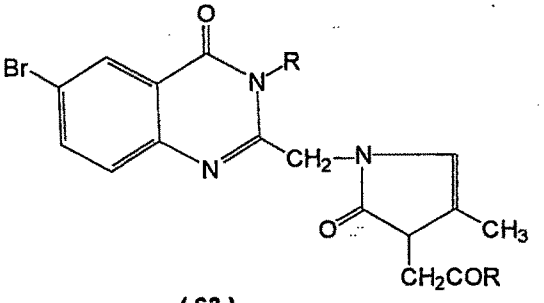

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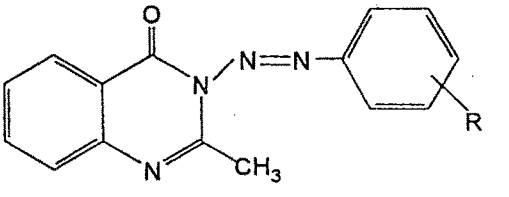


(64)

Bothra and coworkers[105] in 1998, prepared some substituted quinazolines and tested them for their antiinflammatory activity.

Bekhit and coworkers[106] in the same year synthesized some novel benzopyrazolyl, benzoxazolyl, quinazolinyl derivatives of quinazolin-4-ones. These compounds exhibited antiinflammatory activity.

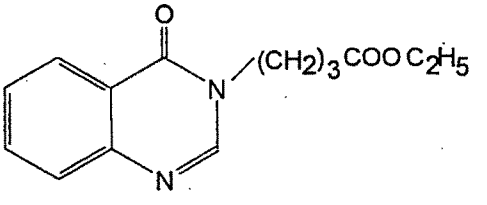
Junichi and coworkers[107] in 1998, synthesized a series of substituted quinazolines. These compounds were found to exhibit analgesic activity.

In 1999, Qi Deng coworkers reported[108] the synthesis of some 3-substituted quinazolin-4-ones (**65**). These sompounds showed antiinflammatory activity.

Ramasarma and coworkers[109] in 1999, prepared a series of 3-(thiadiazolylamino)-2,6,8-trisubstituted quinazolin-4-ones (**66**) and studied their antiinflammatory activity.

Giedrute and coworkers[110] in 1999, synthesized some 4-(substituted anilino) quinazolin-2-carboxylates and studied their antiinflammatory activity.

Abdelal and coworkers[111] in 2001, prepared a series of 1,2,4-triazolo [4,3-*c*]quinazolines (**67**). When evaluated for their CNS activities these compounds showed both analgesic and anticonvulsant activities.



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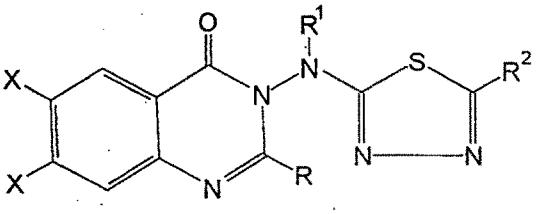

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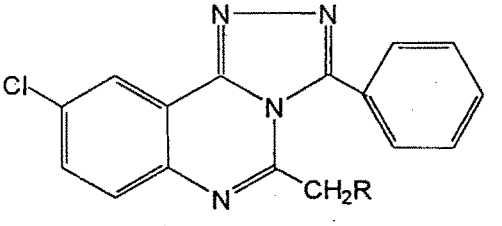

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Jackman and coworkers[112] in 1960, prepared some 2-methyl-3-(o-tolyl)quinazolin-4(3*H*)-ones and 2-methyl-3-(o-chlorophenyl) quinazolin-4(3*H*)-ones (**68**). These compounds were reported to possess sedative, hypnotic and anticonvulsant activities.

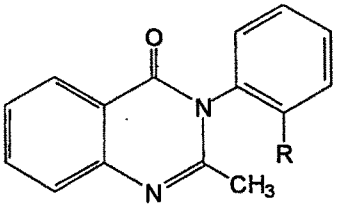
Chaurasia and coworkers[113] in 1982, prepared a series of 3-(2-benzthiazolyl)-2,6-disubstituted quinazolin-4(3*H*)-ones (**69**). These compounds were found to exhibit CNS depressant activity.

Tanabe Seiyaku[114] in 1985, synthesized some 2-fluoromethyl-3-substituted phenyl-6-amino quinazolin-4(3*H*)-ones (**70**), when evaluated for their CNS activities these compounds were found to possess CNS depressant activity.

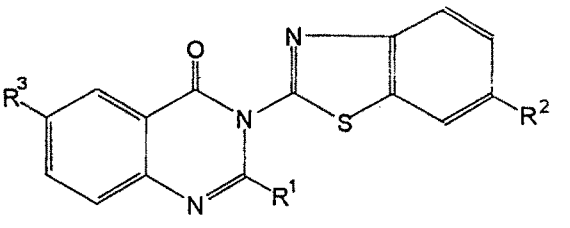
Certain analogs of 2-substituted thio-3-substituted phenyl quinazolin-4- (3*H*)-ones (**71**) with chloro group at C–7 position were prepared by Lakhan and coworkers[115] in 1989. These compounds were reported to possess CNS depressant activity.

In 1996, Abdul Hamid and coworkers[116] prepared a series of 2-(((5-ethyl-5-phenyl-1-barbituryl)methyl)carbonyl)thio-3,6,8-trisubsituted quinazolin-4(3*H*)-ones (**72**). These compounds were reported to possess anticonvulsant activity.

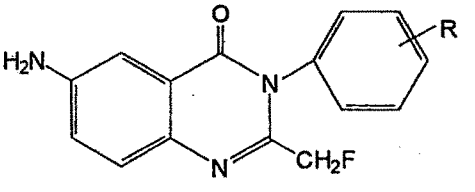
Ibrahim[117] in 1998, synthesized a series of 3-substituted-6,8-dichloro-2-phenyl-4(3*H*)-quinazolines (**73**) and studied their anticonvulsant activity. These compounds were found to possess good anticonvulsant activity.



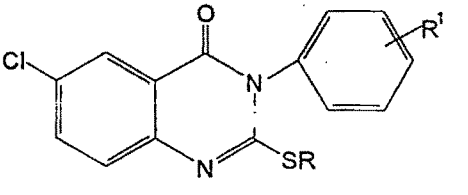
(**68**)



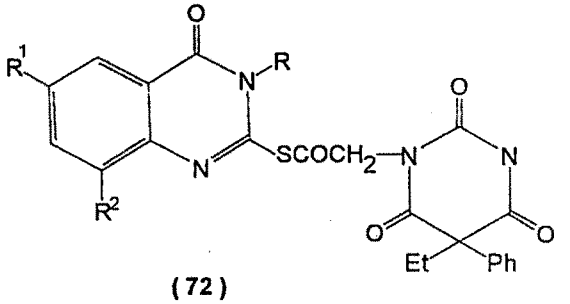
(**69**)



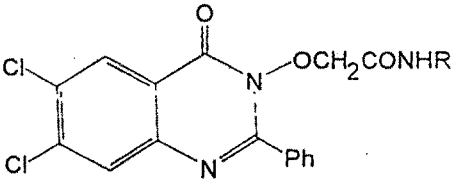
(**70**)



(**71**)



(**72**)



(**73**)

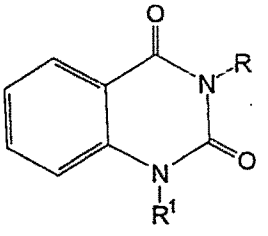
Hassanein and coworkers[118] in 1998, synthesized some 1,3-disubstituted quinazolin-2,4-diones (**74**). When evaluated for their anticonvulsant activity, these compounds were found to possess anticonvulsant property.

In the same year, Nawrocka and coworkers[119] prepared a series substituted quinazoline-4-ones. The pharmacological investigation of these compounds showed anticonvulsant activity as expected .

Cyrilo and coworkers[120] in 2000, synthesized some acetylenic quinazoline derivatives with the aim of exhibiting anticonvulsant activity. These compounds were found to possess anticonvulsant activity as expected.

In 1981, Kumar and coworkers[121] synthesized some 3-(substitutedphenyl)-2-substitutedmethyl-4-oxo quinazolines (**75**) and studied their antiparkinsonism activity.

Franchis and coworkers[122] in 1988, synthesized some substituted-1,3,4-triazoloquinazoline (**76**), when evaluated for their adenosine antagonistic activity these compounds were found to possess significant adenosine antagonistic activity.



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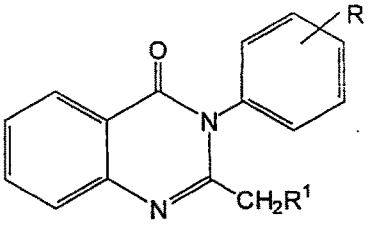

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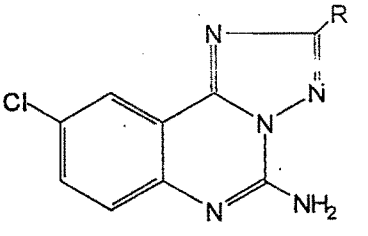
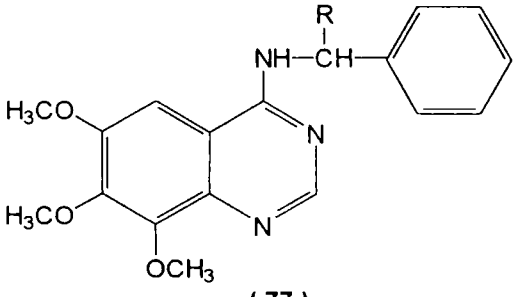


(76)

Takasa and coworkers[123] in 1993, prepared a series of 4-(substituted benzylamino)-6,7,8-trimethoxy quinazolines (**77**). Biological investigations of these compounds shown good c-GmP-PDE inhibition activity.

In the year 1993, Gatta[124] prepared some substituted-1,2,4-triazoloquinazolines (**78**). These comounds were reported to possess affinity towards adenosine and benzodiazepine receptors.



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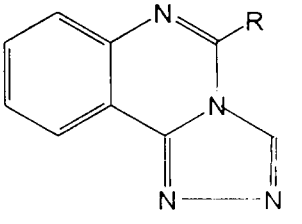
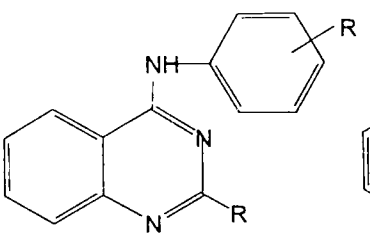


(78)

In 1995, Splegel and coworkers[125] prepared some 2-substituted-4-(substitutedanilino) quinazolines (**79**) and studied their affinity to nerve growth factor.

Lee and coworkers[126] in the same year prepared some 2-(pyridyl/imidazolyl)-4-(substituted anilino)quinazolines (**80**). These compounds were reported to possess c-GMP- PDE inhibition activity.

Kaddachi and coworkers[127] in 1995, described the synthesis of some 3,5,6,7,8-substituted quinazolin-2,4-diones (**81**).



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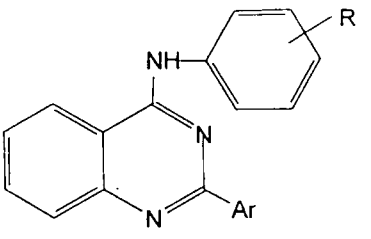

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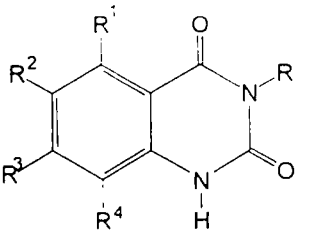

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In 1995, synthesis of certain analogs of 3-(2-mercaptoethyl) quinazolin-2,4-diones (**82**) were reported by Gutschow and coworkers[128].

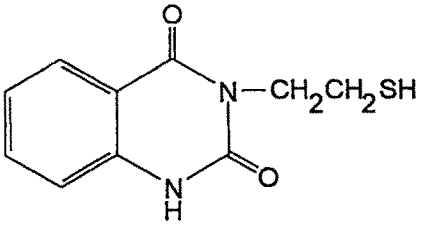
Gazit and coworkers[129] in 1996, synthesized some 4-substituted anilino quinazolines (**83**) and studied their enzyme inhibition activity. These compounds were reported to possess significant tyrosine kinase inhibition activity.

Denny and coworkers[130] in the same year prepared a series of 4-substituted anilino quinazolines (**84**) with substitution at 3-position also. These compounds were found to possess good tyrosine kinase inhibition activity.

In the same year Rewcastle and coworkers[131] synthesized some 4-substituted anilino quinazolines (**85**) with methoxy group at 7 and 8 positions. These compounds were reported to exhibit tyrosine kinase inhibition activity.

In 1996, Gabor and coworkers reported[132] the synthesis of 5,6,7,8-tetrahydro quinazolin-4(3*H*)-one derivatives.

Gray and coworkers[133] in 1996, described the synthesis of certain analogs of substituted quinazolines.



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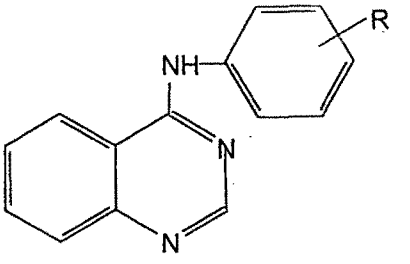

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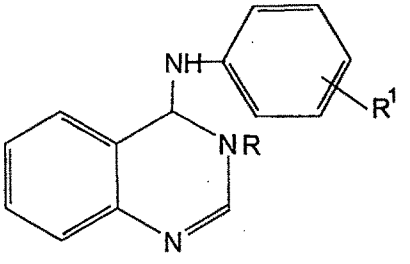

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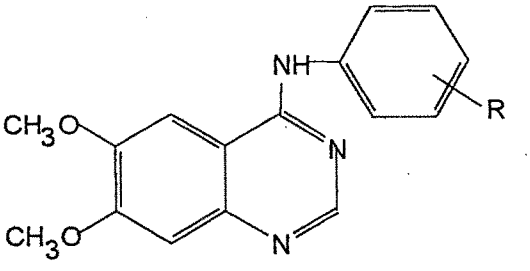


(85)

Hashash and coworkers[134] in 1996, reported the synthesis of 2-substituted quinazolin-4(3*H*)-thione derivatives and studied their biological activity.

Bertrand and coworkers[135] in 1997, synthesized some 3-(2-chlorophenyl)-2-(substitutedpyridinyl)-6-fluoroquinazolin-4(3*H*)-ones and studied their AMPA antagonistic activity.

Heinrich and coworkers[136] in 1997, synthesized some substituted quinazolines, and studied their NPY receptor antagonistic activity.

Elliot Mark and coworkers[137] in 1997, prepared some 2,3-disubstituted quinazoin-4(3*H*)-ones. These compounds were found to possess AMPA receptor antagonistic activity.

In 1997, Sarac and coworkers[138] described the synthesis of 4-aryl-1,2,3,4,5,6,7,8-octahydroquinazolin-2-thione derivatives.

Mitskyavichyus[139] in 1997, synthesized certain analogs of 1-(2-carboxyethyl) quinazolin-2,4-diones.

Arpad and coworkers in 1997, reported[140] the synthesis of some fused heterocyclicquinazolin-4(3*H*)-ones.

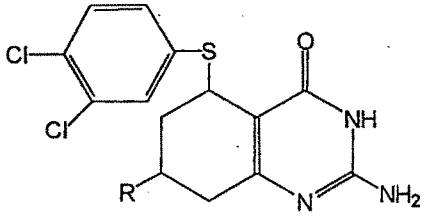
Debi Prasad and coworkers[141] in 1997, reported the synthesis of 2,3-disubstituted quinazolin-4(3*H*)-ones from acylamino-N-aryl benzamides.

Aleem and coworkers in 1997, reported[142] the synthesis of non-classical 2-amino-5,7-disubstituted tetrahydro quinazolin-4-ones (**86**) and studied their thymidylate synthetase inhibition activity.

Monica and coworkers[143] in 1997, described the stereoselective synthesis of 2,3-disubstituted-5-pyrrolidinone derivatives of quinazolin-4(3*H*)-ones.

Stefan Stankovsky and coworkers[144] in 1997, described the synthesis of condensed quinazolines from 3-aryl-4-quinazolones.

Kalinowska and coworkers[145] in the same year reported the synthesis of substituted quinazolin-4(3*H*)-ones (**87**).



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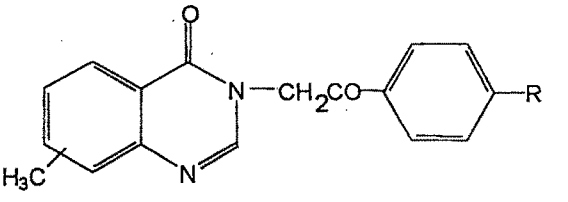

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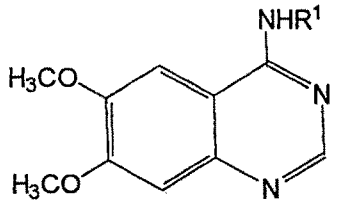
Michael and coworkers[146] in 1997, synthesized some 4-(anilino), 4-(phenoxy), 4-(thiophenoxy)-6,7-dimethoxy quinazolines (**88**).

Kazuyoshi and coworkers[147] in 1997, described the synthesis of imidazo [3,4-*a*] quinazolin-1-ones (**89**).

In the same year Volovenko[148] described the synthesis of 6-substituted-2-cyanomethyl quinazolin-4(3*H*)-ones (**90**).

Spirkova and coworkers[149] in the same year reported the synthesis of a series of 1,2,4-triazoloquinazolines (**91**).



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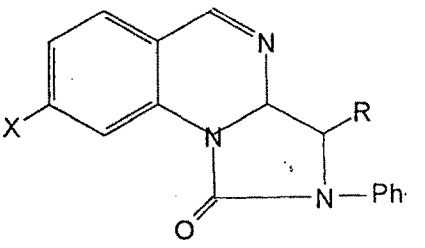

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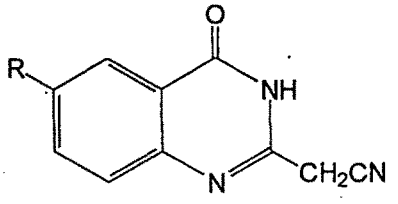

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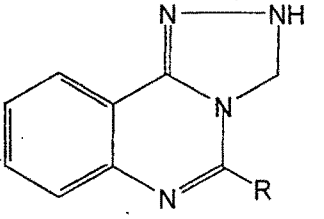


(91)

Bertrand and coworkers[150] later, prepared a series of 3-phenyl/pyridyl-6-substitued quinazolin-4(3*H*)-ones. These compounds were reported to possess AMPA antagonistic activity.

Yong Chul and coworkers[151] in 1998, prepared some substituted-1,3,4- triazoloquinazolines (**92**). These compounds were found to exhibit adenosine antagonistic activity.

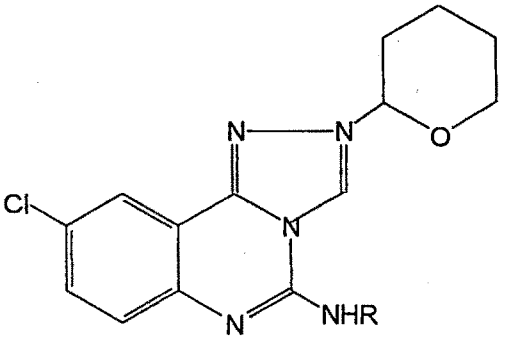
Willard and coworkers[152] in the same year prepared a series of 3-phenyl-2,6-disubstituted quinazolin-4(3*H*)-ones (**93**) and studied their AMPA receptor antagonistic activity.

In 1998, Huang Charles and coworkers[153] synthesized some 2,4,8-trisubstituted quinazolines (**94**).

Yasser and coworkers[154] in 1998, described the chemical transformations of 2,3-disubstituted-1,2,3,4-tetrahydro quinazolin-4-ones (**95**).

Althebeiti and coworkers[155] in 1998, reported the synthesis of some novel spirothiazolidinone and spiroazitidinone derivatives incorporated with quinazolines.

Du Jong and coworkers[156] in 1998, described the synthesis of a series of 5-substituted quinazoline derivatives.



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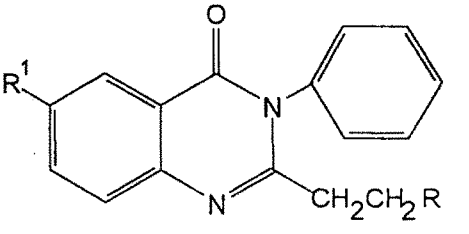

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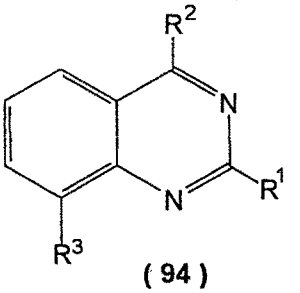

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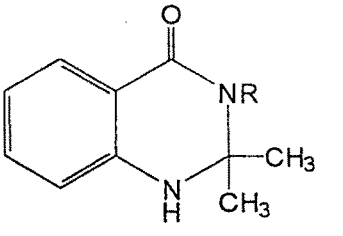


(95)

Shaban and coworkers[157] in 1998, reported the synthesis of some 1,2,4-triazino[4,3-*c*] quinazolines and 4-(pyrazol-1-yl) quinazolines.

In 1998, EL Deen and coworkers[158] described the synthesis of 3-substituted-2-phenylamino-4-oxo quinazolines (**96**).

Mekuskiene and coworkers[159] in 1998, synthesized some 2,3-disubstituted quinazolin-4(3*H*)-ones (**97**) and studied their mono amino oxidase inhibition activity.

Zohry and cowokers[160] in 1998, reported the synthesis of spiroquinazoline-4-heterocyclic derivatives.

Feky and coworkers in 1998, reported[161] the synthesis of some novel 2-substituted-3-aryl quinazolin-4(3*H*)-ones (**98**) from 2-cyanomethyl-3-substitutedphenyl-4(3*H*)-quinazolinone.

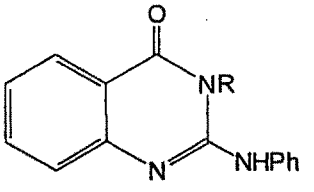
Robert and coworkers[162] in 1998, reported synthesis of some 3-acetoxyamino quinazolin-4(3*H*)-ones.

S.Wojciech and coworkers[163] in 1998, reported the synthesis of certain analogs of 4-substituted arylamino quinazolines (**99**) from 2-amino-N-aryl benzamidines.

W.Wojciech and coworkers[164] in 1998, reported the synthesis of certain analogs of 2,4-diamino quinazolinones.

Thierry and coworkers[165] in 1998, reported the synthesis of 2-cyano-4-alkoxy-6,7-dimethoxy quinazolines (**100**).

Li Huiying and coworkers[166] in 1998, reported the synthesis of some 4-quinazolinone oxime ethers (**101**).



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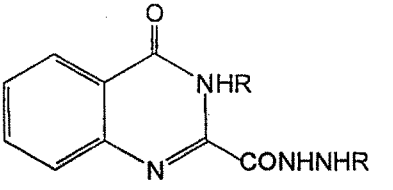

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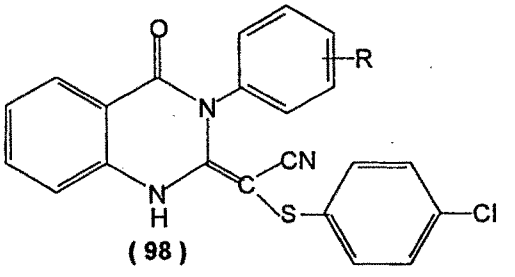

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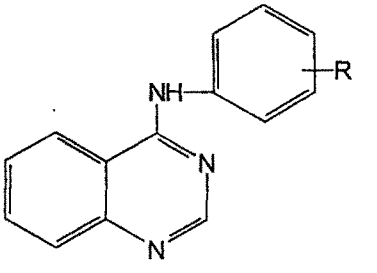

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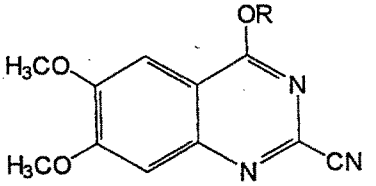

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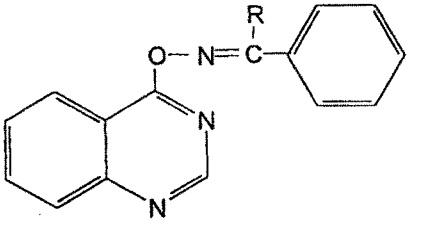


(101)

Nilgun and coworkers[167] in 1998, reported the synthesis of cyclohexylidenehydrazide derivatives of 3-phenyl-4(3*H*)-quinazolinones (**102**).

In the same year Amine and coworkers[168] described the synthesis of condensed quinazolin thiones (**103**).

In 1998, Tonkikh and coworkers reported[169] the synthesis of certain analogs of 5,6,7,8-tetrahydro quinazolines.

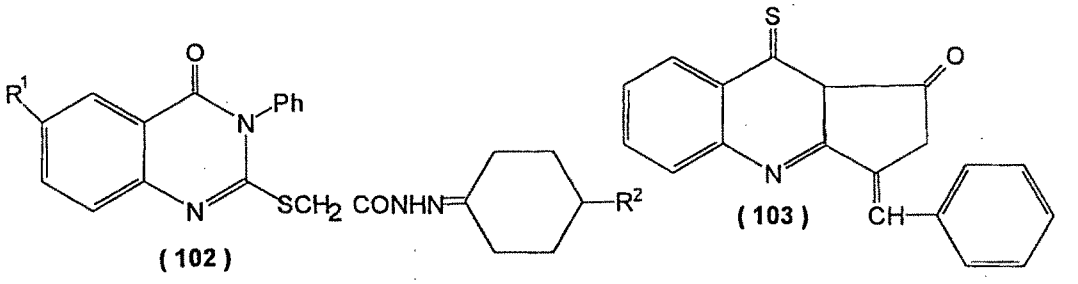
Pastors and coworkers[170] in 1998, described the synthesis of some 2-(trifluoromethyl)-3-substituted-4-oxo quinazolines (**104**) from 3-amino-2-(trifluoromethyl) quinazoline.

In 1998, Kandeel and coworkers reported[171] the synthesis of substituted benzimidazolo, triazolo, tetrazolo and thiadiazolo quinazolines.

Ibrahim and coworkers[172] in 1998, described the synthesis of some 3-substitutedamino-2-methyl-4-oxo quinazolines (**105**).

Marcicatherine and coworkers[173] in 1999, synthesized some 2-(substituted amino)-3-(alkoxylphenyl) quinazolin-4(3*H*)-ones (**106**). When tested for their biological activity, these compounds shown oestrogen agonistic activity.

In 1999, Pramila and coworkers[174] prepared a series of 3-(substituted methyl)-2,6-disubstituted quinazolin-4 (3*H*)-ones (**107**) and studied their antiamoebic activity. These compounds were found to exhibit good antiamoebic activity.



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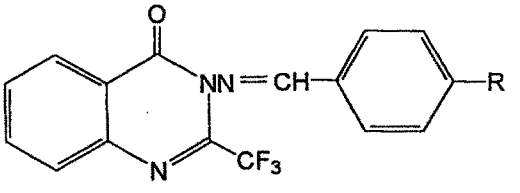

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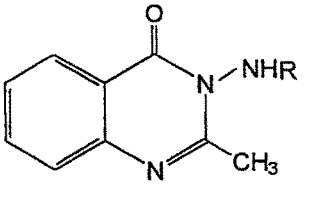

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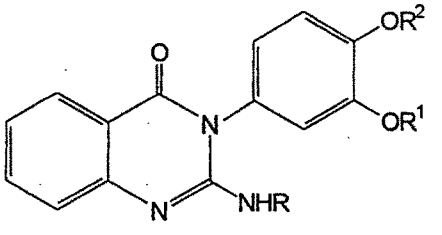

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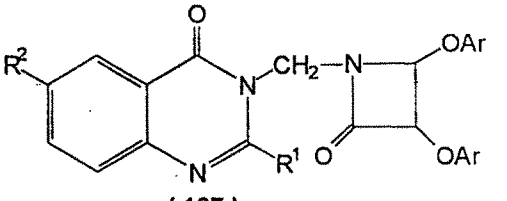


(107)

Mateo and coworkers[175] in 1999, described the intramolecular aza-witting reaction of imino-phosphoranes with β-lactam carbonyl group of substituted quinazolin-4-ones.

Mohammed Sadegh and coworkers[176] in 1999, reported the microwave promoted synthesis of substituted quinazolin-4-(3*H*)-ones.

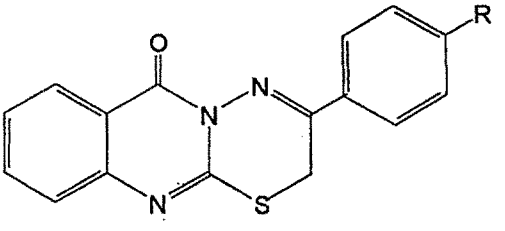
Feng and coworkers[177] in 1999, described the rearrangement of 4-imino benzoxazines to 4-quinazolinones via amidine carboxamides.

Santagati and coworkers[178] in 1999, described the new synthetic approaches to fused heterocyclo quinazolones (**108**).

Xuedong and coworkers in 1999, reported[179] the synthesis of 2-substituted quinazolinones.

Kawadkar and coworkers[180] in 1999, described the synthesis of some novel substituted quinazolin-4-ones.

Keith and coworkers[181] in 1999, described the synthesis of 2-substituted quinazolin-4(3*H*)-ones (**109**).



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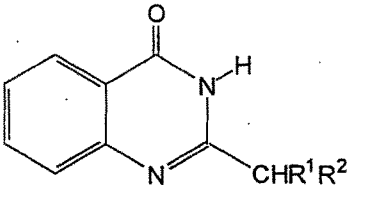


(109)

Laurent and coworkers in 1999, reported[182] the synthesis of a series of oxindole quinazolines by a novel synthetic route.

Reddy and coworkers in 1999, reported[183] the synthesis of some 2-substituted quinazolin-4(3*H*)-ones.

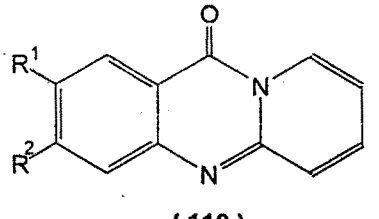
In 1999, Bharadwaj and coworkers reported[184] the synthesis of some substituted pyrido quinazolines (**110**).

Bahekar and coworkers[185] in 1999, described the synthesis of some novel benzimidazo [1,2-*c*] quinazolin-6(5*H*)-ones (**111**).

Mohammed and coworkers[186] in the same year reported the synthesis of 6-substitutedbenzimidazo [1,2-*c*] quinazolines under microwave irradiation.

Ji Wang and coworkers[187] in 1999, described the synthesis of 3-(substituted biphenyl)-2-substituted quinazolin-4(3*H*)-ones (**112**). The pharmacological investigations of these compounds showed angiotensin-II antagonistic activity.

Jorg and coworkers[188] in 1999, reported the synthesis of some substituted-4-oxo quinazolines.



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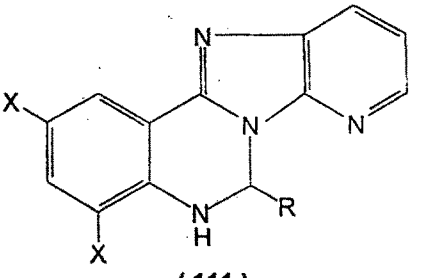

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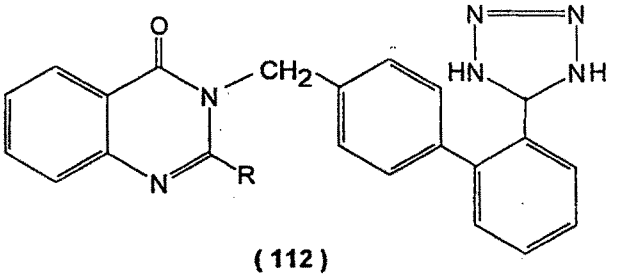


(112)

Tombary and coworkers[189] in 1999, reported the synthesis of some novel triazolo [4,3-*a*] quinazolines and bistriazolo [4,3-*a*] quinazolines.

Mamoru and coworkers[190] in 1999, described the thermal ring contraction of 1,4-benzodiazepines into quinazolines.

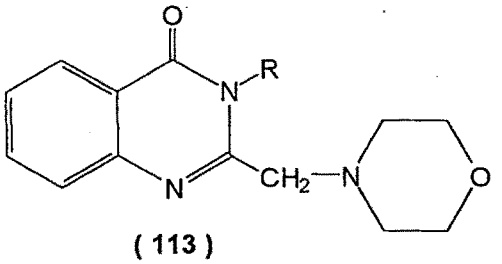
Sharma and coworkers in 1999, reported[191] the synthesis of 7,8,9,10-tetrahydroazepino[2,1-*b*]quinazolines. These compounds were found to possess bronchodilator activity.

Spirkova and coworkers in 1999, reported[192] the synthesis of some 2-morpholinomethyl-3-substituted quinazolin-4(3*H*)-ones (**113**).

In 1999, Mohammed and coworkers reported[193] the synthesis of 2-phenyl-3-substituted-4-oxo quinazolines (**114**).

Strakov and coworkers in 1999, reported[194] the synthesis of 3-(6-amino-2-pyridyl)-2-methyl-4(3*H*)-quinazolinone (**115**) and its chemical reactions.

In 1999, Ramana and coworkers[195] described the synthesis of 2-substituted quinazolin-4(3*H*)-ones (**116**).



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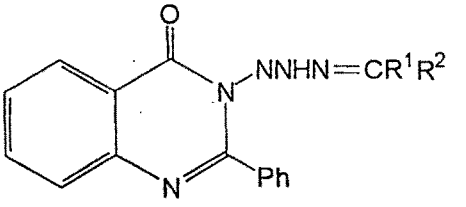

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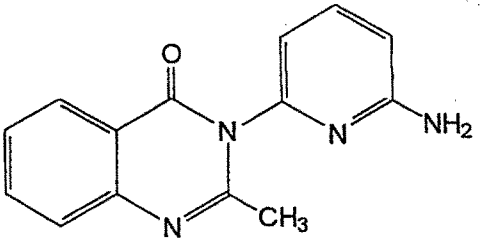

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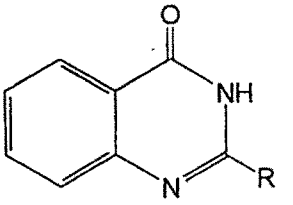


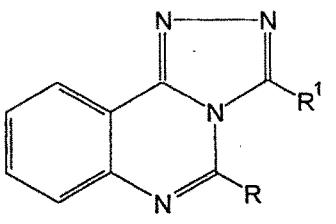
(116)

Abderrahim and coworkers[196] in 1999, reported the synthesis of certain analogs of substituted triazoloquinazolines (**117**).

Feifter and coworkers in 1999, reported[197] the synthesis of some substituted-1,2,4-triazoloquinazolines .

Lucia and coworkers[198] in 2000, prepared some 1,2,3-triazoloquinazolines. Biological investigations of these compounds shown adenosine and benzodiazepine receptor agonistic activity.

In the same year Noriko and coworkers[199] synthesized some 1-methyl-4-(3-substitutedpropyl)-7,8-disubstituted-1,2,4-triazoloquinazolin-4(3*H*)-ones (**118**) and studied their enzyme inhibition activity. These compounds were found to be chemokine inhibitors.



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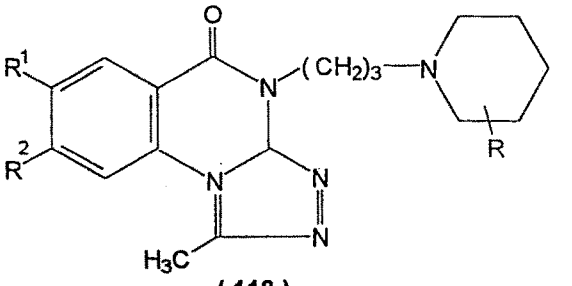

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In 2000, Szczepankiewicz and coworkers reported[200] the synthesis of some novel 3-(2-cyanophenyl) quinazolin-4(3*H*)-ones.

The same workers in 2000, also reported[201] the synthesis of 4-arylamino quinazolines and 2-aryl-4-arylaminoquinazolines.

Patel and coworkers in 2000, reported[202] the synthesis of 2-methyl-3-(2-methylphenyl)-6-arylazo quinazolin-4-one and its derivatives.

Pavel and coworkers[203] in the same year reported the synthesis of some 2-phenyl-2-hydroxymethyl-4-oxo-1,2,3,4-tetrahydro quinazoline and its derivatives.

In 2000, Ali Hussain and coworkers reported[204] the synthesis of o-ethyl phosphorodiamidates from substituted quinazolin-4-ones.

Aleem and coworkers[205] in 2000, synthesized a series of novel non-classical reversed bridge quinazolines and studied their thymidylate synthetase inhibition activity.

Abdugafurov and coworkers in 2000, reported[206] the synthesis of 3-(substituted triazolomethyl)-2-alkyl-4-oxo quinazoline (**119**) derivatives.

Benedict and coworkers[207] in 2000, prepared some 2-substituted amino quinazolin-4-ones and studied their biological activity. These compounds were found to be potassium channel openers.

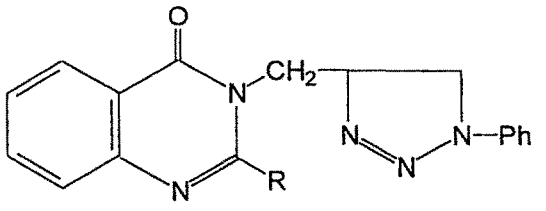
In 2000, Petra and coworkers reported[208] the synthesis of 5,6,7,8-tetrahydro-2,6-diamino quinazolines.

Witt and coworkers[209] in 2000, prepared a series of 2-vinyl-3*H*-quinazolin-4-ones and studied their chemical reactions.

In the same year Simon and coworkers[210] described the synthesis of some 2-substituted aryl quinazolin-4-(3*H*)-ones.

Hiti and coworkers in 2000, reported[211] the synthesis of some substituted quinazolin-4(3*H*)-ones.

Helmuth and coworkers[212] in the same year studied a novel isocyanate reaction on quinazolines (**120**) in which the formation of unexpected cycloadducts was observed.



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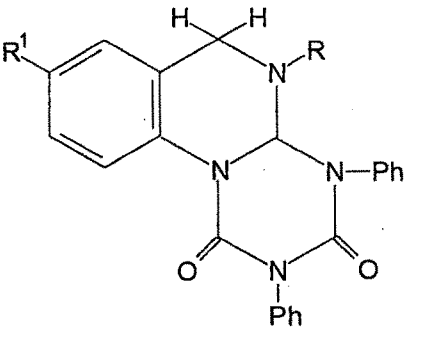

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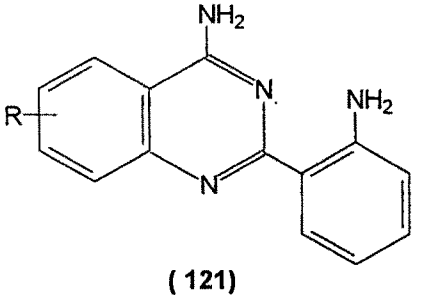
In 2000, Muijlwijk-Koezen and coworkers[213] synthesized a series of substituted quinazolines and studied their human adenosine A_3 receptor antagonistic activity.

Julio and coworkers in 2000, reported[214] the microwave enhanced synthesis of 2-(2-aminophenyl)-4-aminoquinazoline derivatives (**121**).

Ding ming and coworkers[215] in 2000, described the synthesis of 2-substituted amino-3-(substituted phenyl) quinazolin-4(3*H*)-ones (**122**).



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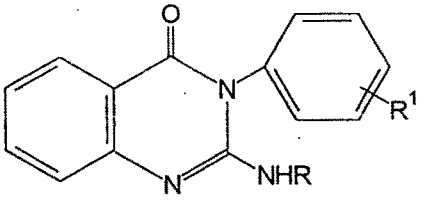


(122)

Jun Min and coworkers[216] in 2000, prepared some α-thiocarbonyl phosphoric acid derivatives of quinazolin analogs.

Hiyoshizo and coworkers[217] in 2000, reported the synthesis of some substituted quinazolines.

Azizian and coworkers[218] in 2000, described the rearrangement of 4-imino(1*H*,4*H*)-3,1-benzoxazine-2-ones to quinazolin-2-4-diones.

Tonkikh and coworkers[219] in the same year synthesized some 2-substituted-5-oxo-5,6,7,8-tetrahydro quinazolines.

Sahadeva and coworkers[220] in 2000, synthesized a series of substituted indolyl quinazolines.

Takumi and coworkers[221] in 2000, described the synthesis of substituted quinazolines using carbondioxide (or) carbonmonoxide with sulfur under mild condition.

Wojciech and coworkers in 2000, reported[222] the synthesis of 4-amino-2-phenyl quinazoline and its derivatives.

Cyril and coworkers[223] in 2000, described the synthesis of some 5-chloro-2-methyl-3-(5-methylthiazol-2-yl)-4(3*H*)-quinazolone derivatives and studied their biological activities.

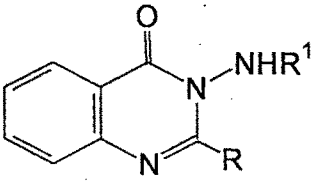
Srivastava and coworkers in 2000, reported[224] the synthesis of 3-substituted amino-2-alkyl/aryl-4-oxo quinazolines (**123**).

In 2003, Reddy and coworkers[225] synthesized some new 4-aryl-1,2,4-oxadiazino[5,4-*b*]quinazolines (**124**) from 2-chloro quinazolin-4-one.

In 2003, Gangual and coworkers[226] prepared some 1,2-disubstituted quinazolines **(125)** and studied their antiinflammatory activity.

In the same year Reddy and coworkers reported[227] the synthesis of some bismethaqualone, bismecloqualone and bispiroqualone analogues.

Kant and coworkers[228] in 2003, prepared a series of 2,3-disubstituted quinazolines **(126)**. When evaluated for their antimicrobial activity these compounds were found to possess mild antifungal activity.



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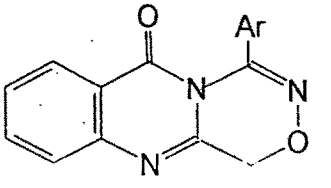

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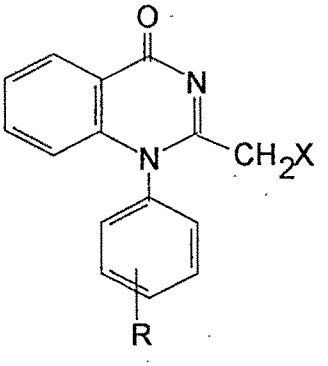

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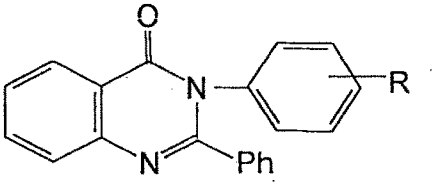
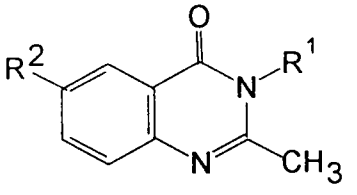


(126)

Panneerselvam and coworkers[229] in 2003, synthesized a series of 2-methyl-3,6-disubstituted quinazolin-4-ones **(127)** for their analgesic and antimicrobial activity.

In 2003, Ashok kumar and coworkers reported[230] the synthesis, analgesic, antiinflammatory, ulcerogenic and Cyclooxygenase activities of a series of novel quinazolinyl pyrazolines (**128**).



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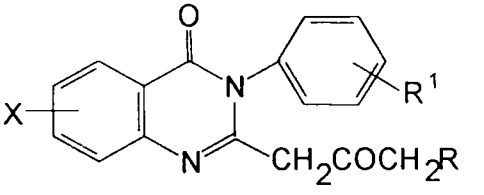
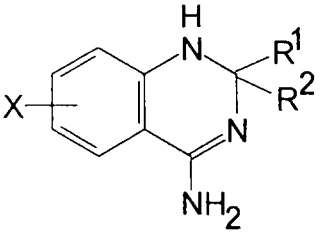


(128)

In 2003, Tinker and coworkers reported[231] the synthesis of 1,2-dihydro-4-quinazolinamines (**129**). These compounds where found to possess antiinflammatory activity at nanomolar concentration.

Selvam and coworkers[232] recently prepared some 2,6-disubstituted quinazolin-4-ones by incorporating sulphonamides at 3-position (**130**). These compounds were investigated for their antibacterial and antiviral activities.



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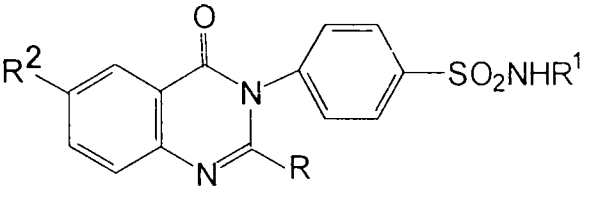

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