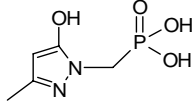
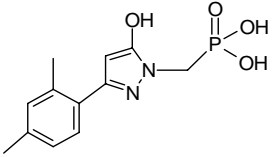
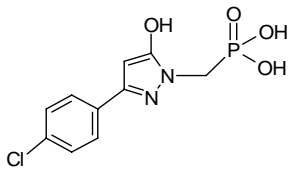
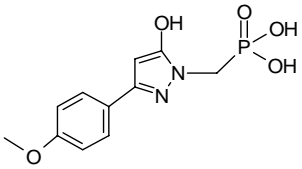
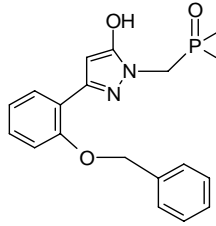
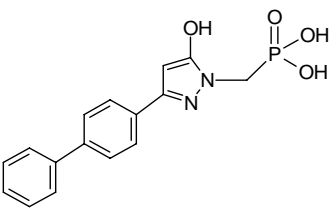
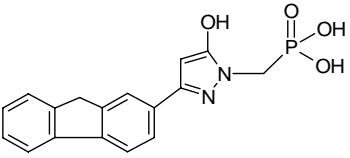
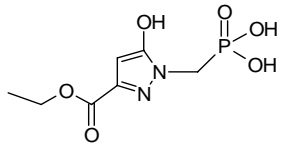
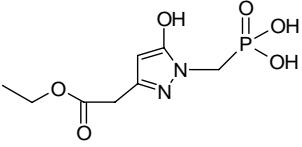
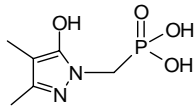
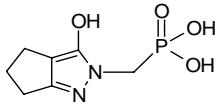
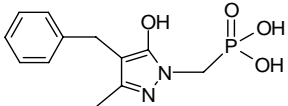
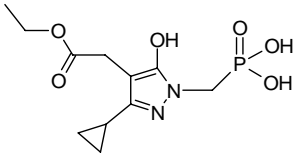
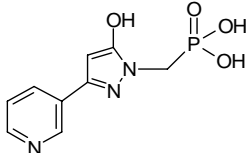
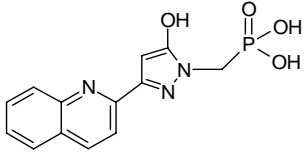
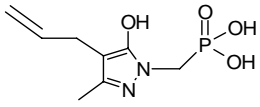
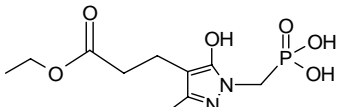
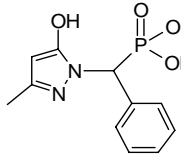
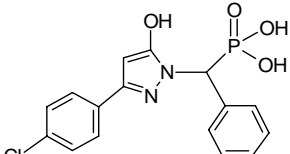
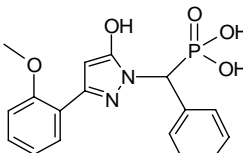
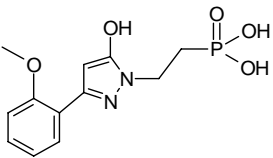
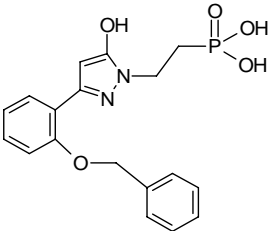
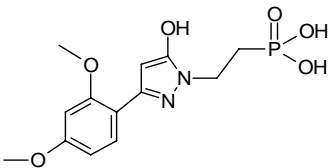
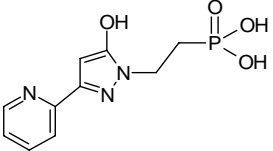
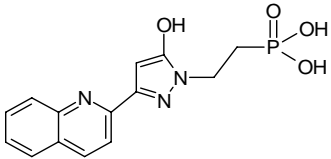
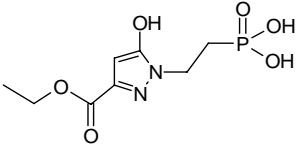
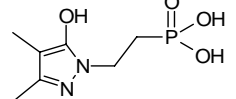
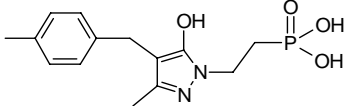
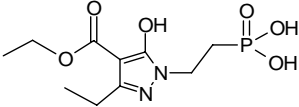
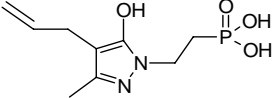


## M. HYDROXYPYRAZOLE-ALKYL-PHOSPHONIC ACIDS.xls

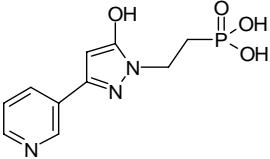
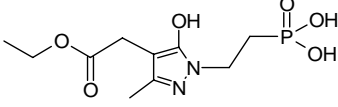
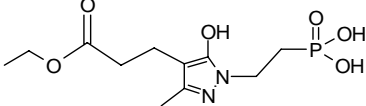
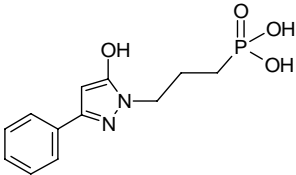
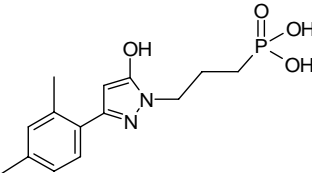
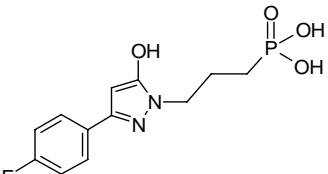
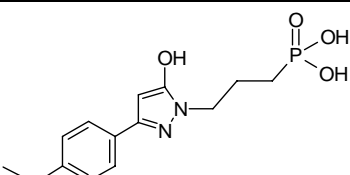
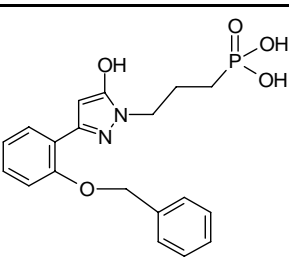
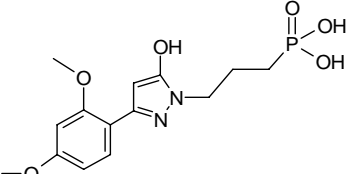
ID Number	Structure	Formula	M.W.	m.p. °C	Remarks
M	<b>HYDROXYPYRAZOLE-ALKYL-PHOSPHONIC ACIDS</b>				
M01-59-4579		C <sub>5</sub> H <sub>9</sub> N <sub>2</sub> O <sub>4</sub> P	192,11	285-288	colorless crystals
M01-59-4580		C <sub>12</sub> H <sub>15</sub> N <sub>2</sub> O <sub>4</sub> P	282,24	271-275	colorless crystals
M01-59-4581		C <sub>10</sub> H <sub>10</sub> ClN <sub>2</sub> O <sub>4</sub> P	288,63	194-198	white solid
M01-59-4582		C <sub>11</sub> H <sub>13</sub> N <sub>2</sub> O <sub>5</sub> P	284,21	232-237	yellowish crystals
M01-59-4583		C <sub>17</sub> H <sub>17</sub> N <sub>2</sub> O <sub>5</sub> P	360,31	125-130	2 isomers colorless crystals
M01-59-4584		C <sub>16</sub> H <sub>15</sub> N <sub>2</sub> O <sub>4</sub> P	330,28	285-289	colorless crystals
M01-59-4585		C <sub>17</sub> H <sub>15</sub> N <sub>2</sub> O <sub>4</sub> P	342,29	230-234	colorless crystals
M01-59-4586		C <sub>7</sub> H <sub>11</sub> N <sub>2</sub> O <sub>6</sub> P	250,15	185-187	colorless crystals
M01-59-4587		C <sub>8</sub> H <sub>13</sub> N <sub>2</sub> O <sub>6</sub> P	264,18	215-217	2 isomers colorless crystals

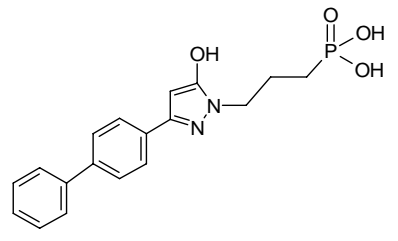
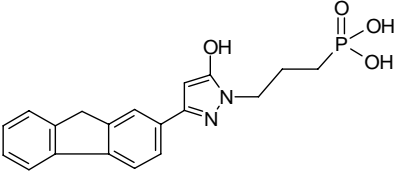
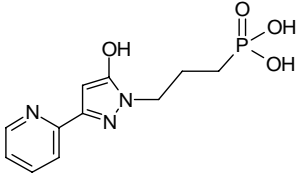
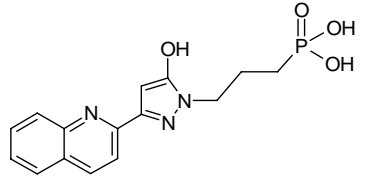
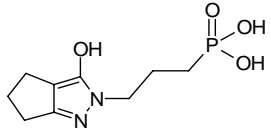
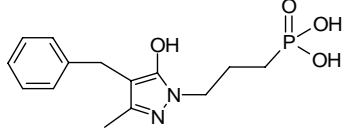
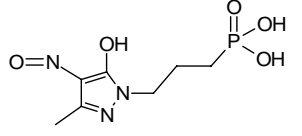
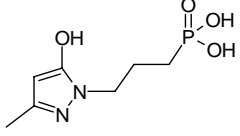
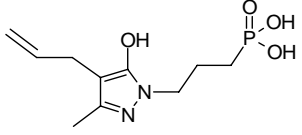
M01-59-4588		C <sub>6</sub> H <sub>11</sub> N <sub>2</sub> O <sub>4</sub> P	206,14	275-280	colorless crystals
M01-59-4589		C <sub>7</sub> H <sub>11</sub> N <sub>2</sub> O <sub>4</sub> P	218,15	263-266	colorless crystals
M01-59-4590		C <sub>12</sub> H <sub>15</sub> N <sub>2</sub> O <sub>4</sub> P	282,24	244-249	colorless crystals
M01-59-4591		C <sub>11</sub> H <sub>17</sub> N <sub>2</sub> O <sub>6</sub> P	304,24	191-193	colorless crystals
M01-59-4729		C <sub>9</sub> H <sub>10</sub> N <sub>3</sub> O <sub>4</sub> P	255,17	287-290	colorless crystals
M01-59-4730		C <sub>13</sub> H <sub>12</sub> N <sub>3</sub> O <sub>4</sub> P	305,23	326-230	yellow crystals
M01-59-4895		C <sub>8</sub> H <sub>13</sub> N <sub>2</sub> O <sub>4</sub> P	232,18	235-237	colorless crystals
M01-59-4896		C <sub>10</sub> H <sub>17</sub> N <sub>2</sub> O <sub>6</sub> P	292,23	240-243	colorless crystals
M02-59-4592		C <sub>11</sub> H <sub>13</sub> N <sub>2</sub> O <sub>4</sub> P	268,21	282-284	colorless crystals
M02-59-4593		C <sub>16</sub> H <sub>14</sub> ClN <sub>2</sub> O <sub>4</sub> P	364,73	208-210	colorless crystals
M02-59-4594		C <sub>17</sub> H <sub>17</sub> N <sub>2</sub> O <sub>5</sub> P	360,31	264-267	cream-colored crystals

M02-59-4595		C17H17N2O5P	360,31	170-174	colorless crystals
M02-59-4596		C15H14N3O4P	331,27	290-293	yellowish crystals
M02-59-4731		C11H12N3O5P	297,21	76-79	2 isomers yellow needles
M02-59-4733		C14H15N2O6P	338,26	153-156	colorless crystals
M02-59-4735		C18H19N2O6P	390,34	208-209	colorless crystals
M02-59-4988		C15H14N3O4P	331,27	242-248	cream-colored crystals purity ca 90%
M02-59-5075		C13H17N2O4P	296,27	166-168	colorless crystals
M03-59-4598		C6H11N2O4P	206,14	204-207	colorless crystals
M03-59-4600		C11H13N2O4P	268,21	265-270	colorless crystals
M03-59-4601		C11H12ClN2O4P	302,66	260-266	colorless crystals

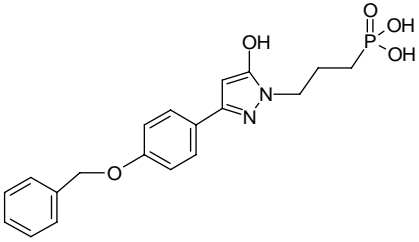
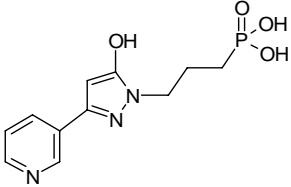
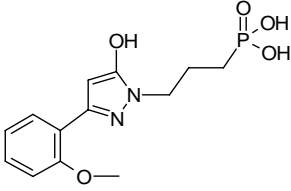
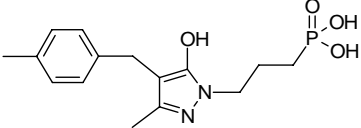
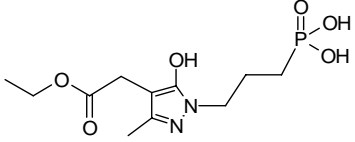
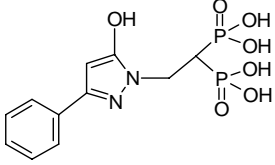
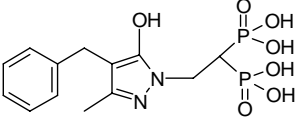
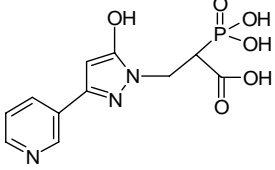
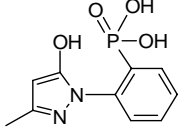
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M03-59-4603		C <sub>18</sub> H <sub>19</sub> N <sub>2</sub> O <sub>5</sub> P	374,34	272-274	colorless crystals
M03-59-4604		C <sub>13</sub> H <sub>17</sub> N <sub>2</sub> O <sub>6</sub> P	328,26	245-250	colorless crystals
M03-59-4605		C <sub>10</sub> H <sub>12</sub> N <sub>3</sub> O <sub>4</sub> P	269,20	214-217	colorless crystals
M03-59-4606		C <sub>14</sub> H <sub>14</sub> N <sub>3</sub> O <sub>4</sub> P	319,26	279-282	pale yellow crystals
M03-59-4608		C <sub>8</sub> H <sub>13</sub> N <sub>2</sub> O <sub>6</sub> P	264,18	184-187	colorless crystals
M03-59-4609		C <sub>7</sub> H <sub>13</sub> N <sub>2</sub> O <sub>4</sub> P	220,17	250-254	colorless crystals
M03-59-4610		C <sub>14</sub> H <sub>19</sub> N <sub>2</sub> O <sub>4</sub> P	310,29	220-224	colorless crystals
M03-59-4611		C <sub>10</sub> H <sub>17</sub> N <sub>2</sub> O <sub>6</sub> P	292,23	172-174	colorless crystals
M03-59-4736		C <sub>9</sub> H <sub>15</sub> N <sub>2</sub> O <sub>4</sub> P	246,20	182-185	colorless crystals

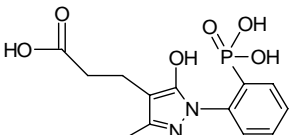
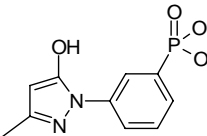
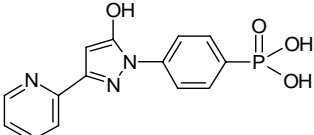
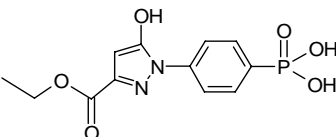
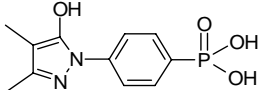
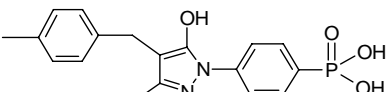
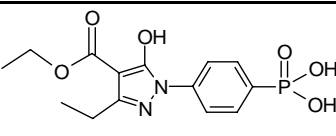
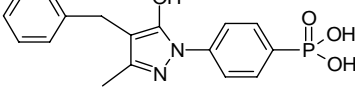
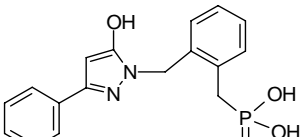
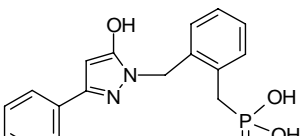
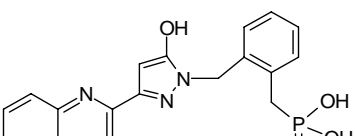
## M. HYDROXYPYRAZOLE-ALKYL-PHOSPHONIC ACIDS.xls

M03-59-4737		C10H12N3O4P	269,20	281-284	light yellow crystals
M03-59-4897		C10H17N2O6P	292,23	213-215	colorless crystals
M03-59-4898		C11H19N2O6P	306,26	200-202	colorless plates
M04-59-4613		C12H15N2O4P	282,24	230-232	colorless crystals
M04-59-4614		C14H19N2O4P	310,29	166-170	cream-colored crystals
M04-59-4615		C12H14FN2O4P	300,23	221-224	colorless crystals
M04-59-4616		C13H17N2O5P	312,26	264-267	colorless crystals
M04-59-4617		C19H21N2O5P	388,36	225-227	colorless crystals
M04-59-4618		C14H19N2O6P	342,29	206-208	colorless crystals

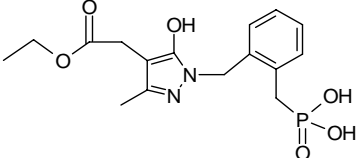
M04-59-4619		C <sub>18</sub> H <sub>19</sub> N <sub>2</sub> O <sub>4</sub> P	358,34	223-226	cream-colored solid
M04-59-4620		C <sub>19</sub> H <sub>19</sub> N <sub>2</sub> O <sub>4</sub> P	370,35	233-236	cream-colored solid
M04-59-4621		C <sub>11</sub> H <sub>14</sub> N <sub>3</sub> O <sub>4</sub> P	283,23	143-147	colorless crystals
M04-59-4622		C <sub>15</sub> H <sub>16</sub> N <sub>3</sub> O <sub>4</sub> P	333,29	219-221	yellow crystals
M04-59-4623		C <sub>9</sub> H <sub>15</sub> N <sub>2</sub> O <sub>4</sub> P	246,20	240-244	colorless crystals
M04-59-4624		C <sub>14</sub> H <sub>19</sub> N <sub>2</sub> O <sub>4</sub> P	310,29	205-208	colorless crystals
M04-59-4626		C <sub>7</sub> H <sub>12</sub> N <sub>3</sub> O <sub>5</sub> P	249,16	194-197	2 isomers orange crystals
M04-59-4740		C <sub>7</sub> H <sub>13</sub> N <sub>2</sub> O <sub>4</sub> P	220,17	211-213	colorless crystals
M04-59-4741		C <sub>10</sub> H <sub>17</sub> N <sub>2</sub> O <sub>4</sub> P	260,23	181-183	colorless crystals

## M. HYDROXYPYRAZOLE-ALKYL-PHOSPHONIC ACIDS.xls

M04-59-4742		C19H21N2O5P	388,36	195-201	cream-colored solid
M04-59-4743		C11H14N3O4P	283,23	213-214	yellowish crystals
M04-59-4744		C13H17N2O5P	312,26	121-125	colorless crystals
M04-59-4745		C15H21N2O4P	324,32	211-215	colorless crystals
M04-59-4899		C11H19N2O6P	306,26	201-203	cream-colored crystals
M05-59-4900		C11H14N2O7P2	348,19	188-190	colorless crystals
M05-59-4906		C13H18N2O7P2	376,25	222-228	colorless crystals
M05A-59-5076		C11H12N3O6P	313,21	253-254	yellowish crystals
M06-59-4989		C10H11N2O4P	254,18	206-210	colorless crystals

M06-59-4990		C13H15N2O6P	326,25	162-165	colorless crystals
M07-59-4747		C10H11N2O4P	254,18	281-284	cream-colored crystals
M08-59-4629		C14H12N3O4P	317,24	255-260	orange crystals
M08-59-4630		C12H13N2O6P	312,22	278-282	cream-colored crystals
M08-59-4631		C11H13N2O4P	268,21	286-288	cream-colored crystals
M08-59-4632		C18H19N2O4P	358,34	275-277	cream-colored crystals
M08-59-4633		C14H17N2O6P	340,28	218-220	cream-colored crystals
M08-59-4749		C17H17N2O4P	344,31	268-271	cream-colored crystals
M09-59-4991		C17H17N2O4P	344,31	265-267	cream-colored crystals
M09-59-4992		C16H16N3O4P	345,30	177-180	cream-colored crystals
M09-59-4993		C20H18N3O4P	395,36	195-199	orange-brown crystals



M09-59-4994		C <sub>16</sub> H <sub>21</sub> N <sub>2</sub> O <sub>6</sub> P	368,33	256-260	colorless crystals
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