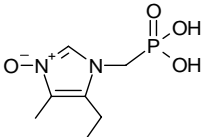
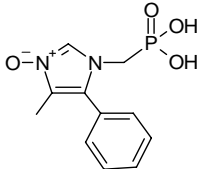
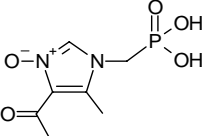
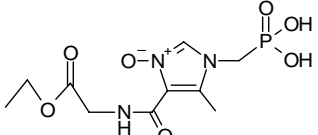
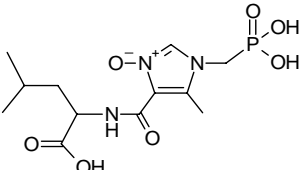
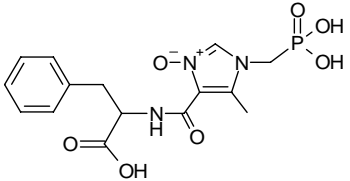
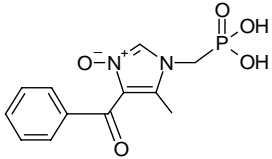
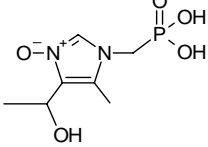
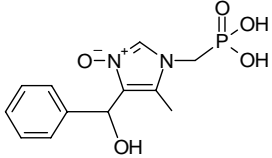
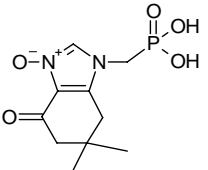
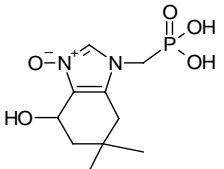
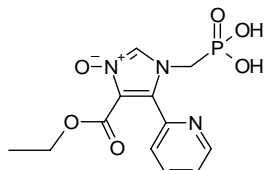
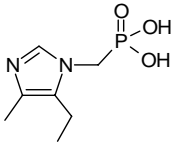
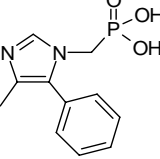
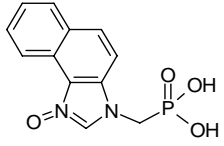
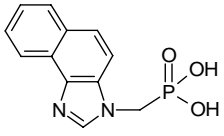
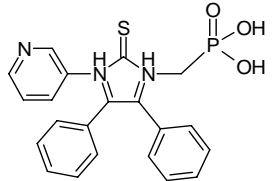
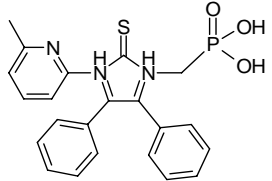
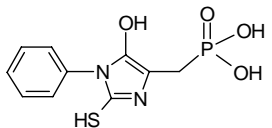
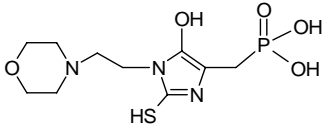
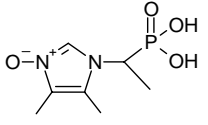
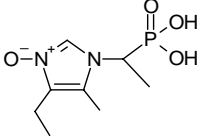
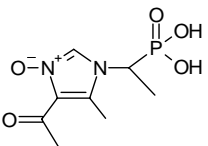
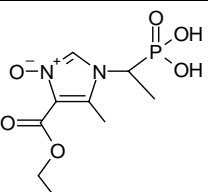
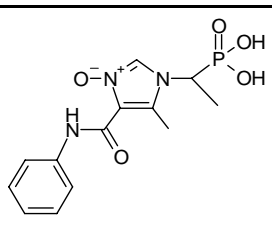
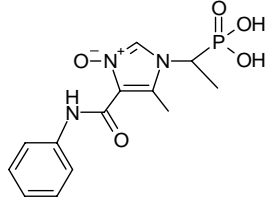
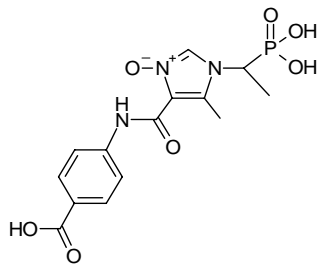


ID Number	Structure	Formula	M.W.	m.p. (°C)	Remarks
N	<b>IMIDAZOLE-ALKYL-PHOSPHONIC ACIDS and N-oxides</b>				
N01-11-3244		C7H13N2O4P	220,17	201-207	colorless crystals
N01-11-3245		C11H13N2O4P	268,21	238-240	colorless crystals
N01-11-3246		C7H11N2O5P	234,15	226-228	colorless crystals
N01-11-3248		C10H16N3O7P	321,23	215-220	colorless crystals
N01-11-3249		C12H20N3O7P	349,28	163-168	colorless crystals
N01-11-3250		C15H18N3O7P	383,30	164-175	colorless crystals
N01-11-4851		C12H13N2O5P	296,22	225-230	colorless crystals
N01-11-4852		C7H13N2O5P	236,17	210-212	colorless crystals
N01-11-4853		C12H15N2O5P	298,24	223-226	colorless crystals

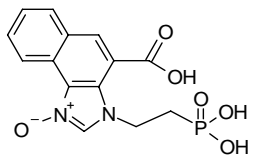
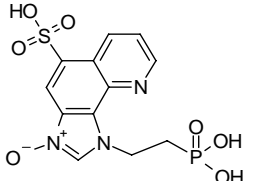
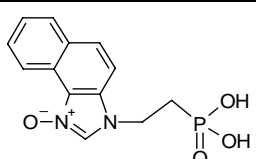
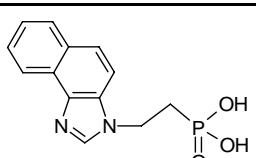
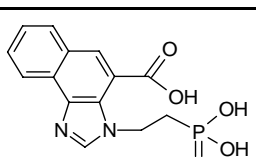
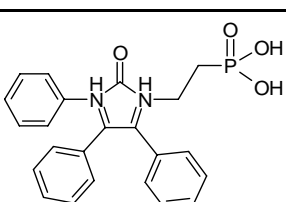
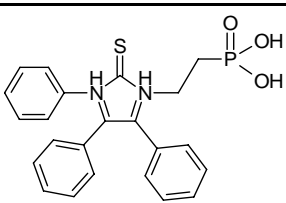
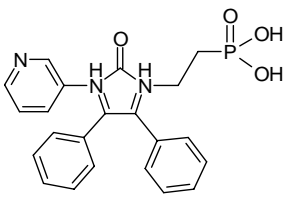
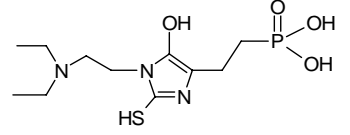
## IMIDAZOLE-ALKYL-PHOSPHONIC ACIDS and N-oxides.xls

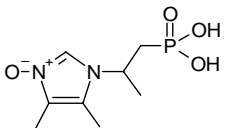
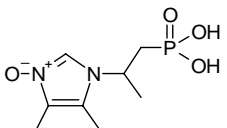
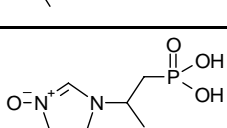
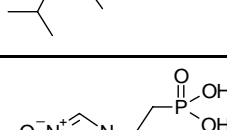
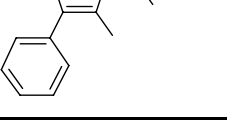
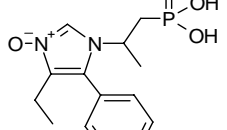
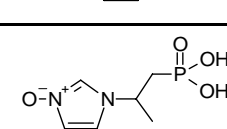
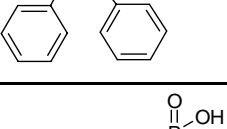
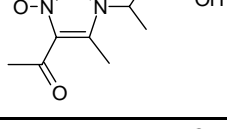
N01-11-4854		C <sub>10</sub> H <sub>15</sub> N <sub>2</sub> O <sub>5</sub> P	274,22	237-238	colorless plates
N01-11-4855		C <sub>10</sub> H <sub>17</sub> N <sub>2</sub> O <sub>5</sub> P	276,23	230-240	white solid
N01-11-4856		C <sub>12</sub> H <sub>14</sub> N <sub>3</sub> O <sub>6</sub> P	327,24	193-194	colorless crystals
N01-13-3410		C <sub>7</sub> H <sub>13</sub> N <sub>2</sub> O <sub>3</sub> P	204,17	234-239	colorless crystals
N01-13-3414		C <sub>11</sub> H <sub>13</sub> N <sub>2</sub> O <sub>3</sub> P	252,21	277-283	colorless crystals
N01-38-4058		C <sub>12</sub> H <sub>11</sub> N <sub>2</sub> O <sub>4</sub> P	278,21	270-274	colorless crystals
N01-39-4159		C <sub>12</sub> H <sub>11</sub> N <sub>2</sub> O <sub>3</sub> P	262,21	over 300	cream-colored crystals
N01-67-4825		C <sub>21</sub> H <sub>20</sub> N <sub>3</sub> O <sub>3</sub> PS	425,45	272-280	pale yellow crystals
N01-67-4826		C <sub>22</sub> H <sub>22</sub> N <sub>3</sub> O <sub>3</sub> PS	439,48	152-155	light yellow crystals

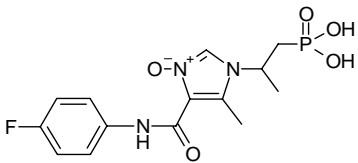
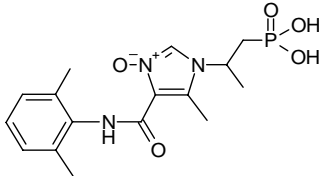
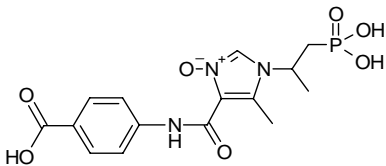
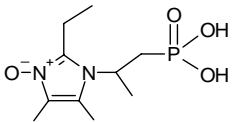
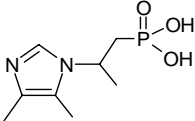
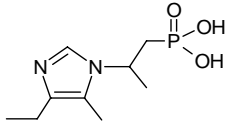
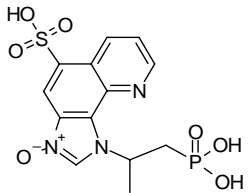
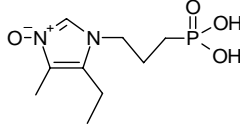
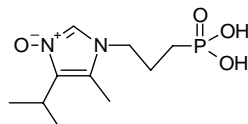
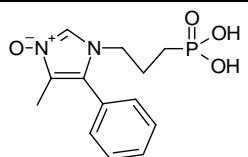
N01-72-4938		C10H11N2O4PS	286,25	132-135	colorless crystals
N01-72-4939		C10H18N3O5PS	323,31	176-178	colorless crystals
N02-11-3251		C7H13N2O4P	220,17	230-232	colorless crystals
N02-11-3252		C8H15N2O4P	234,19	247-250	colorless crystals
N02-11-3254		C8H13N2O5P	248,18	226-230	colorless crystals
N02-11-3255		C9H15N2O6P	278,20	231-233	colorless crystals
N02-11-3256		C13H16N3O5P	325,26	236-240	colorless crystals
N02-11-3257		C13H16N3O5P	325,26	238-240	colorless crystals
N02-11-3258		C14H16N3O7P	369,27	244-255	yellowish crystals

N02-11-4857		C14H16ClN2O6P	374,72	166-169	colorless crystals
N02-13-3415		C12H15N2O3P	266,24	265-269	colorless crystals
N02-13-3416		C9H15N2O5P	262,20	219-221	colorless needles
N02-38-4060		C12H12N3O7PS	373,28	244-248	yellowish crystals
N03-11-3259		C13H17N2O4P	296,27	267-268	colorless crystals
N03-11-3260		C14H19N2O4P	310,29	263-267	colorless crystals
N03-11-3261		C14H17N2O6P	340,28	202-205	colorless crystals
N03-11-3262		C19H18N3O7P	431,35	282-290	yellowish crystals
N03-13-3412		C13H17N2O3P	280,27	275-278	colorless crystals

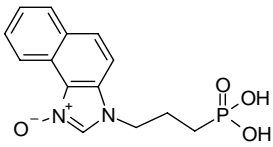
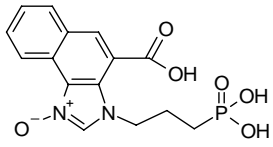
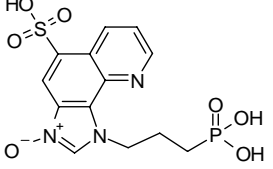
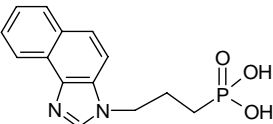
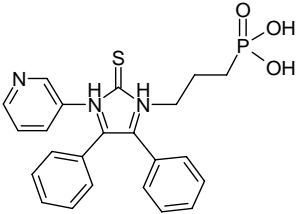
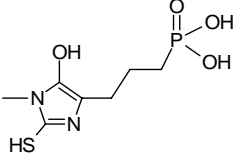
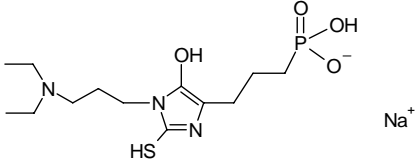
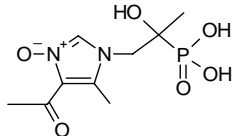
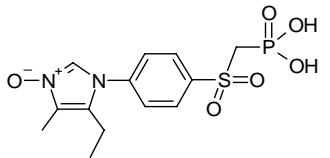
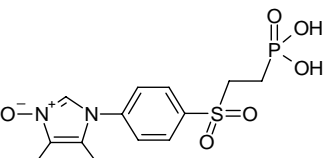
N03-13-3417		C10H17N2O5P	276,23	208-213	colorless crystals
N04-11-3263		C10H17N2O4P	260,23	256-261	colorless crystals
N04-11-3264		C16H21N2O4P	336,33	250-253	colorless crystals
N04-13-3408		C10H17N2O3P	244,23	296-300	colorless crystals
N05-11-3265		C7H13N2O4P	220,17	217-221	colorless crystals
N05-11-3266		C8H15N2O4P	234,19	212-216	colorless crystals
N05-11-3267		C9H17N2O4P	248,22	236-239	colorless crystals
N05-11-3268		C8H13N2O5P	248,18	204-205	colorless crystals
N05-11-3269		C9H15N2O6P	278,20	188-190	colorless crystals
N05-11-3271		C16H20N3O7P	397,33	176-185	yellowish crystals

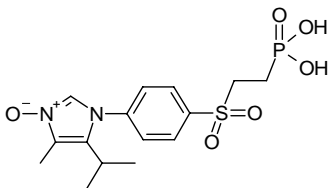
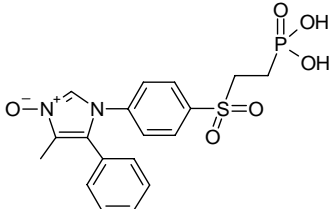
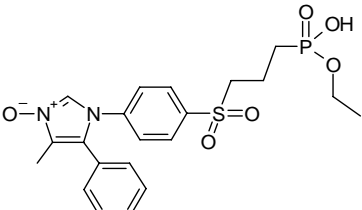
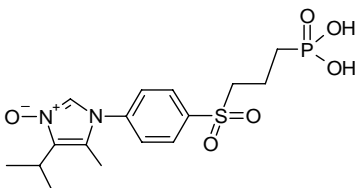
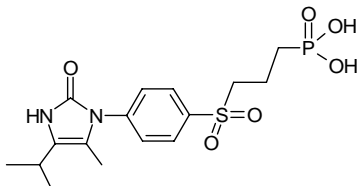
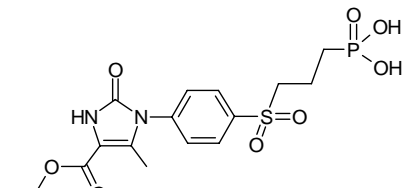
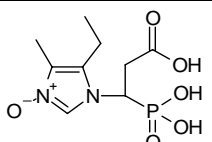
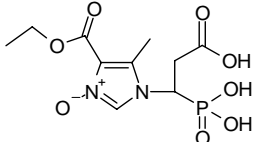
N05-38-4061		C14H13N2O6P	336,24	272-275	pale beige crystals
N05-38-4062		C12H12N3O7PS	373,28	252-257	brick-orange crystals
N05-38-4158		C13H13N2O4P	292,23	185-190	colorless crystals
N05-39-4160		C13H13N2O3P	276,23	260-265	colorless crystals
N05-39-4161		C14H13N2O5P	320,24	269-273	yellowish crystals
N05-67-4827		C23H23N2O4P	422,42	99-102	colorless crystals
N05-67-4828		C23H23N2O3PS	438,49	110-113	cream-colored crystals
N05-67-4830		C22H22N3O4P	423,41	261-266	light yellow crystals
N05-72-4940		C11H22N3O4PS	323,35	251-254	colorless crystals

N06-11-3272		C <sub>8</sub> H <sub>15</sub> N <sub>2</sub> O <sub>4</sub> P	234,19	216-219	colorless crystals
N06-11-3273		C <sub>9</sub> H <sub>17</sub> N <sub>2</sub> O <sub>4</sub> P	248,22	212-216	colorless crystals
N06-11-3274		C <sub>10</sub> H <sub>19</sub> N <sub>2</sub> O <sub>4</sub> P	262,25	205-207	colorless crystals
N06-11-3275		C <sub>13</sub> H <sub>17</sub> N <sub>2</sub> O <sub>4</sub> P	296,27	230-234	colorless crystals
N06-11-3276		C <sub>14</sub> H <sub>19</sub> N <sub>2</sub> O <sub>4</sub> P	310,29	234-237	colorless crystals
N06-11-3277		C <sub>18</sub> H <sub>19</sub> N <sub>2</sub> O <sub>4</sub> P	358,34	227-232	colorless crystals
N06-11-3278		C <sub>9</sub> H <sub>15</sub> N <sub>2</sub> O <sub>5</sub> P	262,20	222-224	colorless crystals
N06-11-3279		C <sub>10</sub> H <sub>17</sub> N <sub>2</sub> O <sub>6</sub> P	292,23	190-191	colorless crystals
N06-11-3280		C <sub>12</sub> H <sub>20</sub> N <sub>3</sub> O <sub>7</sub> P	349,28	185-190	colorless crystals

N06-11-3281		C14H17FN3O5P	357,28	225-229	colorless crystals
N06-11-3282		C16H22N3O5P	367,34	232-234	colorless crystals
N06-11-3283		C15H18N3O7P	383,30	232-242	yellowish crystals
N06-11-4859		C10H19N2O4P	262,25	249-251	colorless crystals
N06-13-3409		C8H15N2O3P	218,19	207-212	colorless crystals
N06-13-3413		C9H17N2O3P	232,22	249-252	colorless crystals
N06-38-4063		C13H14N3O7PS	387,31	251-255	orange crystals
N07-11-3284		C9H17N2O4P	248,22	205-212	colorless crystals
N07-11-3285		C10H19N2O4P	262,25	191-196	colorless crystals
N07-11-3286		C13H17N2O4P	296,27	193-197	colorless crystals

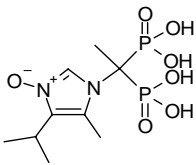
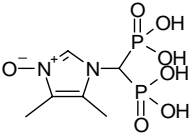
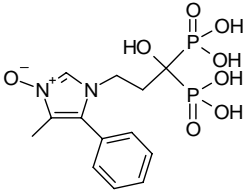
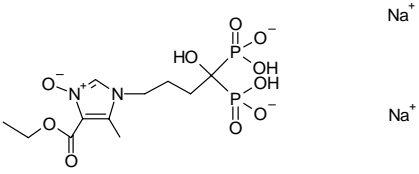
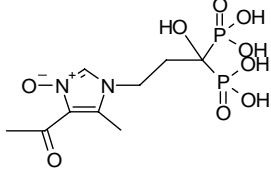


N07-38-4064		C14H15N2O4P	306,26	230-235	colorless crystals
N07-38-4065		C15H15N2O6P	350,27	230-235	yellowish crystals
N07-38-4066		C13H14N3O7PS	387,31	228-231	orange crystals
N07-39-4162		C14H15N2O3P	290,26	253-257	colorless crystals
N07-67-4832		C23H24N3O3PS	453,50	140-142	yellow crystals
N07-72-4941		C7H13N2O4PS	252,23	143-145	colorless crystals
N07-72-4942		C13H25N3NaO4PS	373,39	162-165	colorless crystals
N08-11-4858		C9H15N2O6P	278,20	220-222	colorless crystals
N09-64-4786		C13H17N2O6PS	360,33	293-295	cream-colored crystals
N09-64-4790		C13H17N2O6PS	360,33	160-162	colorless crystals

N09-64-4791		C15H21N2O6PS	388,38	191-193	cream-colored crystals
N09-64-4792		C18H19N2O6PS	422,40	186-188	colorless crystals
N09-64-4799		C21H25N2O6PS	464,48	199-201	colorless crystals
N09-64-4800		C16H23N2O6PS	402,41	160-162	colorless crystals
N09-64-4801		C16H23N2O6PS	402,41	235-237	colorless crystals
N09-64-4802		C16H21N2O8PS	432,39	212-215	colorless crystals
N10-51A-4456		C9H15N2O6P	278,20	142-145	colorless crystals
N10-51A-4457		C10H15N2O8P	322,21	273-275	colorless crystals

N10-51A-4459		C9H15N2O6P	278,20	160-163	colorless crystals
N10-51A-4460		C11H19N2O6P	306,26	159-163	colorless crystals
N11-51-4302		C9H15N2O6P	278,20	221-224	colorless crystals
N11-51-4303		C10H17N2O6P	292,23	142-146	colorless crystals
N11-51-4304		C13H15N2O6P	326,25	239-241	colorless crystals
N11-51-4305		C14H17N2O6P	340,28	239-241	colorless crystals
N11-51-4876		C10H15N2O7P	306,21	211-213	colorless crystals
N11-51-4877		C10H17N2O7P	308,23	55-57	colorless solid hygroscopic
N11-51A-4465		C9H15N2O6P	278,20	213-218	colorless crystals

N11-51A-4466		C <sub>10</sub> H <sub>15</sub> N <sub>2</sub> O <sub>8</sub> P	322,21	186-190	colorless crystals
N11-51A-4475		C <sub>10</sub> H <sub>17</sub> N <sub>2</sub> O <sub>6</sub> P	292,23	212-216	colorless crystals
N11-51A-4484		C <sub>10</sub> H <sub>19</sub> N <sub>2</sub> O <sub>6</sub> P	294,25	184-189	colorless crystals
N11-51A-4485		C <sub>12</sub> H <sub>21</sub> N <sub>2</sub> O <sub>8</sub> P	352,28	161-165	colorless solid
N12-48-4127		C <sub>8</sub> H <sub>14</sub> N <sub>2</sub> O <sub>9</sub> P <sub>2</sub>	344,16	330-337	colorless crystals
N12-48-4129		C <sub>11</sub> H <sub>14</sub> N <sub>2</sub> O <sub>7</sub> P <sub>2</sub>	348,19	198-201	colorless crystals
N12-48-4130		C <sub>11</sub> H <sub>14</sub> N <sub>2</sub> O <sub>7</sub> P <sub>2</sub>	348,19	254-258	colorless crystals
N12-48-4386		C <sub>12</sub> H <sub>23</sub> N <sub>3</sub> O <sub>7</sub> P <sub>2</sub>	383,28	280-283	colorless crystals
N12-48-4417		C <sub>7</sub> H <sub>14</sub> N <sub>2</sub> O <sub>7</sub> P <sub>2</sub>	300,15	235-239	cream-colored crystals

N12-48-4418		C <sub>9</sub> H <sub>18</sub> N <sub>2</sub> O <sub>7</sub> P <sub>2</sub>	328,20	201-204	colorless crystals
N12-48-4870		C <sub>6</sub> H <sub>12</sub> N <sub>2</sub> O <sub>7</sub> P <sub>2</sub>	286,12	251-253	colorless crystals
N13-48-4428		C <sub>13</sub> H <sub>18</sub> N <sub>2</sub> O <sub>8</sub> P <sub>2</sub>	392,24	211-214	colorless crystals
N13-48-4438		Na <sup>+</sup> C <sub>11</sub> H <sub>18</sub> N <sub>2</sub> Na <sub>2</sub> O <sub>10</sub> P <sub>2</sub>	446,20	304-308	cream-colored crystals
N13-48-4871		C <sub>9</sub> H <sub>16</sub> N <sub>2</sub> O <sub>9</sub> P <sub>2</sub>	358,18	226-227	colorless crystals