1: Single medicinals

Rou gui (*Cortex Cinnamomi Cassiae*): cinnamon acts to increase testosterone levels and insulin activity; it is an anti-glucocorticoid and releases adrenocorticotropic hormone (ACTH) and catecholamine.

Wu zhu yu (*Fructus Evodiae Rutecarpae*): a parasympathetic component in wu zhu yu can enhance the action of a relaxed ex corpore uterus and excite the uterus of rats. It can also act as an antagonist to qiangfulin's relaxation capabilities.

Xiao hui xiang (*Fructus Foeniculi Vulgaris*): the extraction of xiao hui xiang steeped in acetone increases the proteins within the testicles and the spermatic duct, and increases the proteins within the seminal vesicles and prostate gland. In female rats, it functions to accelerate the sexual cycle and the intravaginal keratinization. It can also increase mammary gland, fallopian tube, endometrial and myometrial weight and size. One active component is dimeranethole.

Lu rong (*Cornu Parvum Cervi*): This substance can increase the level of testosterone within the blood plasma of male rats and can increase the weight and size of the testicles, prostate gland, seminal vesicle, levator ani and bulbospongiosus muscle in immature mice. An extract of lu rong can encourage the uterus in mice to increase in weight and size. It can cause the uterus of rabbits to enlarge and fill with blood, as well as, accelerate ovulation.

Lu jiao jiao (*Gelatinum Cornu Cervi*): when lu jiao jiao is given to rats, it can markedly shorten the latent period of electrical stimulation that causes the penis to become erect. It also acts to clearly increase the seminal vesicle and prostate gland in male rats and enhances the tendency for male rats to mate.

Ba ji tian (*Radix Morindae Officinalis*): a water decoction of ba ji tian does not clearly effect luteinizing hormone levels in the blood of normal female rats; however it clearly increases the weight and size of the anterior lobe of the pituitary gland, ovaries and uterus. It can enhance the ovary's chorionic gonadotropic hormone / luteinizing hormone receptor cell functionality. It can also clearly increase the luteotrophic hormone secretory response in the pituitary of rats whose ovaries have been removed after injecting them with externally derived luteotrophic hormone-releasing hormone (LR-HR).

Rou cong rong (*Herba Cistanchis Deserticolae*): This increases the regulatory function and decreases the nucleic acid level in animals with liver and spleen yang and yin vacuity. It functions to activate adrenaline-releasing cortical steroids and it can enhance the luteotrophic function on the hypothalamus, pituitary and ovaries. It can heighten the reactivity of the pituitary and ovaries to LRH, but does not influence the natural internal secretory balance of the reproductive cycle.

Xian mao (*Rhizoma Curculiginis Orchidis*): a water decoction of xian mao given to rats can significantly increase the weight and size of the anterior lobe of the pituitary, ovaries and uterus. It enables chorionic-gonadotropic hormone and luteotrophic hormone receptors to clearly increase their binding capacity. It can also clearly increase the
luteotrophic hormone secretory response in the pituitary of rats whose ovaries have been removed after injecting them with externally derived luteotrophic hormone-releasing hormone (LR-HR). When a xian mao tincture was given to male rats, it clearly increased the weight and size of the seminal vesicle and possessed androgenic capabilities.

Yin yang huo (Herba Epimedii): when a water decoction of yin yang huo is given to rats, it can significantly increase the blood plasma level of testosterone and the weight and size of the testes and levator ani muscle. It can also significantly accelerate testicular tissue growth and secretions. When given to rats, it can enhance the pituitary's reactivity to luteinizing-releasing hormone and the ovaries to luteinizing hormone. It clearly increases the weight and size of the pituitary, ovaries and uterus; and enhances the chorionic-gonadotropic hormone / luteinizing hormone receptor cells' binding capacity.

Hu lu ba (Semen Trigonellae Foeni-graeci): when a hu lu ba extract is given to male rats, it can clearly decreases the weight of the testes, epididymis, prostate and seminal vesicles. It causes a decrease in the total protein and sialic acid content of the epididymis, seminal vesicles and prostate gland as well as total testicular protein. This extract appears to have anti-fertility and anti-androgenic activity.

Du zhong (Cortex Eucommiae Ulmoidis): a decoction of du zhong can inhibit uterine contractions, lessen the contraction strength of an ex corpore uterus, inhibit their spontaneous activity and decrease their frequency, and can even act to counter pituitrin on an ex corpore uterus. A tincture of du zhong and a water decoction differ regarding their significant antagonistic effect on household rabbit uterine excitation and contraction caused by pituitrin and adrenaline. Salt roasted du zhong enhances the inhibitory function on the ex corpore uterine contractions of pregnant mice.

Xu duan (Radix Dipsaci): Sichuan xu duan DA303 can markedly inhibit the spontaneous ex corpore uterine contractions in pregnant and non-pregnant rats, counter the ex corpore phased smooth muscle uterine contractions of pregnant rats induced by Oxytocin 2.5 µ/ Kg, decreases the intensity and frequency of spontaneous in corpore uterine contractions in pregnant rats, and counter the increased contraction intensity, frequency and tension induced by Oxytocin 2.5 µ/ Kg.

Bu gu zhi (Semen Psoraleae Corylifoliae): this is an anti-rejection medicinal. 2.0 mg of isomerized psoralen was administered to rabbits with skin transplants on their backs. 2 hours after its administration they were treated with black light (ultraviolet light) for 30 minutes, causing the transplanted layer of skin to become rosy, supple, increasing its thickness, extended its life, and diminished the number of lymph cells within the capillaries of the upper layer dermis. The substances contained within bu gu zhi (a phenol of psoralea and isopsoralen) both have a fairly clear antagonizing early-pregnancy action. Bu gu zhi has an estrogen-like action, being able to increase the keratinization of the vagina in female rats and the weight of the uterus.

Yi zhi ren (Fructus Alpiniae Oxyphyllae): yi zhi ren inhibits prostaglandin synthesis. An alcohol extraction can inhibit prostaglandin synthetase activity.

Ge jie (Gecko): an extract made from ge jie (GEH) acts like male and female sex hormones. It can markedly increase the weight of male mice testes and can increase the weight of both the prostate and seminal vesicles in castrated animals. GEH can markedly increase the weight of the uterus and ovaries in immature female mice, causing the
vaginal orifice opening interval to begin earlier and causing the appearance of estrus in immature female rats. Although it cannot cause the appearance of estrus in mice out of ovaries, it can however, in larger dosages, produce the appearance of proestrus in a certain percentage of animals and increase the weight of the uterus. Comparing geckos with and without a complete tail, the former causes animal seminal vesicles and prostate to increase markedly in weight. This supports the concept that the strength of the ge jie lies within its tail, and that using the tail as a whole piece, not broken into pieces conforms to this.

Zi he che (Placenta Hominis): an extract of zi he che given via injection to young rabbits while nursing appears to have the capability of accelerating growth, markedly accelerating thymus, spleen, uterus and mammary gland development. It also accelerates thyroid and testes development. Placental blood serum has an excitatory effect on ex corpore rat uteri, similar to that of posterior lobe pituitary hormones.

Tu si zi (Semen Cuscutae Chinensis): when a decoction of tu si zi is given via gastric tube feeding to male mice with hydrocortisone induced yang vacuity, it can markedly increase the body weight, kidney weight, thymus weight, white blood cells, red blood cells, hemoglobin in mice and dismutase vitality. A water extract of tu si zi given to feed black-bellied fruit flies can markedly increase the mating frequency of the flies. Mice that have been given a water extract of tu si zi can accelerate the keratinization of the epidermis of the vagina and increase the weight of the uterus. A water extract of tu si zi, when given via gastric feeding tube to mice, can increase the weight of the anterior lobe of the pituitary gland, ovaries and uterus, increase the number of rat ovarian receptor of hCG/LH, and yet the K value was somewhat decreased in the control group. Tu si zi can, after injecting LRH from the pituitary gland of anaesthetized rats with ovaries removed, increase the LH secretory response, with the serum LH level peaking at 90 minutes after the injection. From this we can see that this substance can elevate the functioning of hypothalamic, pituitary and ovarian luteotrophic hormones and heighten the reactivity of the pituitary gland to LRH and the ovaries to LH. It increases sperm motility and membrane function. Using different concentrations of a water decoction of tu si zi mixed together with human sperm, which were then incubated for 30 minutes at 37° C. By experimenting with passing sperm through ducts while using a sperm motility speed and vitality index and by experimenting on sperm hypo-osmotic swelling to appraise the membrane function, it was discovered that this substance can markedly accelerate sperm motility and membrane ability and functionality thereby contributing to the treatment of male infertility and enhancing artificial insemination efficacy.

Suo yang (Herba Cynomorii Songarici): this can accelerates animal sexual maturation. Experiments indicate that suo yang extracts act to accelerate animal sexual maturation and can even counter diminished sexual behavior in mice due to prolonged stress factors.

Mian hua zi (Semen Glossypii): after 2-4 weeks of being fed intra-abdominally with a 5% concentration of a gossypol, rats soon became infertile, with the speed of the anti-fertility effect being related to the dosage. After it was stopped for 3-5 weeks, their fertility gradually returned. When adult males were administered 59 - 71mg of a gossypol, every day for 35 - 42 days, the sperm were killed in a short period of time and gradually disappeared from the semen; however it had essentially no effect on their sexual lives.
Xue lian (*Herba Galanthi*): it can contracts the uterus and terminates pregnancy. The extract of xue lian contains a progesterone antagonist; it can terminate animal decidual reaction and enhance uterine excitation during the gestation period that can accelerate uterine contractions, thereby causing the termination of a pregnancy.

Yuan can e aka bai jiang can (*Bombyx Batryticatus*): experiments prove that male yuan can e extract can increase the weight of the prostate, seminal vesicles and Tyson's gland in normal immature mice, mature castrated mice and rats. The yuan can e extract acts to accelerate the increase in body weight of immature male mice and levator ani muscle in castrated rats.

Hai ma (*Hippocampus*): It has an effect similar to sex hormones. An alcohol extract of hai ma can prolong the estrus in normal female mice and increases the weight of their uterus and ovaries and manifest the effects of androgenic hormones.

Hai long (*Syngnathus*): an alcohol extraction of hai long can increase sperm motility and sperm counts in normal male mice to varying degrees. It can also clearly increase the sperm count, sperm motility, the weight of sexual glands and sexual organs in cyclophosphamide-induced sterility in mice. It can excite the uterus. Hai ma has an excitatory effect on the different sexual cycles of rat, mouse and rabbit ex corpore and in corpore uteri. It acts comparatively moderately and slowly, continues over a comparatively long period of time and does not easily cause rigid contractions.

Ha ma you (*Oviductus Ranae*): it can accelerate animal sexual maturity. Animal research indicates that a fatty component of ha ma you can cause young female rats to advance earlier to sexual maturity. By the second day of the vaginal opening after being injected within the abdominal cavity, examination of the sloughed off vaginal cells were positive in young rats. In the control group, it was on the 9th day of the vagina opening, the examination of the sloughed off vaginal cells were still negative in tissue.

Dang gui (*Radix Angelicae Sinensis*): dang gui has a biphasic effect on uterine smooth muscle tissue. Animal research indicates that dang gui has an initial inhibitory effect on ex corpore uteri, and an initial excitatory effect on in corpore uteri. The dang gui action of exciting the uterus is related to histamine-H receptor excitation. It can accelerate hematopoetic mechanism. A polysaccharide of dang gui has a markedly accelerated restorative effect on the RBCs, hemoglobin, WBCs and femur karyocytes in anemic rats. In another report, the polysaccharides of dang gui had a markedly accelerated effect of proliferation and differentiation on the blood stem cells in the marrow of normal and anemic rats.

Shu di huang (*Radix Rehmanniae Glutinosae Coquita*): this medicinal supplements blood. Shu di huang's ability to supplement the blood is closely related to the bone marrow hemopoetic system. Research indicates that both sheng di huang (*Radix Rehmanniae Exsiccata Séu Recens*) and shu di huang (*Radix Rehmanniae Glutinosae Coquita*) have a specific effect on proliferation and differentiation of pluripotent hemopoetic stem cells in mice; and can increase both the internal and external primary splenic tubercles as compared to the control group. It has been pointed out that this substance's ability to supplement the blood is related to the hemopoetic stem cells. Animal research indicates that sheng di huang, charred sheng di huang, shu di huang and charred shu di huang can all stop bleeding, and that there is no marked difference
between them. Shu di has an inhibitory effect on blood platelet agglutination, has an anti-thrombase effect and acts on the fibrolytic system, thereby inhibiting blood thrombus formation within the blood vessels.

He shou wu (*Radix Polygoni Multiflori*): this herb can accelerate the maturation of hemopoietic cells. This substance has an accelerating effect on the maturation of granulocytic tissue and can increase hemopoietic stem cells and improve the creation rate of granulocytes in the bone marrow of mice.

Bai shao (*Radix Paeoniae Lactiflorae Albae*): bai shao influences smooth muscle tissue. A glucoside of bai shao (TGP) has an inhibitory effect on ex corpore rat and guinea pig intestines, on in corpore stomach motility as well as on the smooth muscle of rat uteri. It also antagonizes contractions induced by pitocin / oxytocin. And TGP can strengthen ileum contractions induced by acetylcholine or histamines.

Nu zhen zi (*Fructus Ligustri Lucidi*): this has a biphasic regulation on the endocrine system. By means of radioimmunoassay RIA, nu zhen zi was found to contain estradiol and testosterone.

Gui ban (*Plastrum Testudinis*): an alcohol decoction of gui ban has a clear excitatory effect on ex corpore uterus of research animals and can markedly increase the strength of uterine contractions. It increases the weight of the genital organs. Gui lu bu shen kou fu ye (*Tortoise Plastron and Deer Horn glue Kidney Supplemeting Oral Liquid*) can markedly increase the weight of the testes, uterus, prostate, Tyson's glands and seminal vesicles. It treats idiopathic sperm diminishment. The use of this substance as the primary ingredient in gui lu si zi he ji (*Tortoise plastron and Deer horn glue Four Seed Mixture*) increases the number of sperm in sterile males.

Fu pen zi (*Fructus Rubi Chingli*): using a vaginal smear from rabbits and a section of the inner lining as the observational index, fu pen zi appears to have an estrogen-like action. It elevates testosterone levels. A water decoction of fu pen zi directly affects the testicular cells, enhances steroidal synthetase activity, inhibits its decomposition, increases the ability to synthesize testosterone, and elevates serum testosterone levels.